Identifying Context Specific Risk Among
Trauma-exposed PSNI Personnel

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2021

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This dissertation is submitted to the University of Dublin in fulfilment of the requirements for the award of a Doctorate in Philosophy, School of Psychology
Declaration

30 September 2020

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Larissa Sherwood
Executive Summary

Background: The risks associated with police work can have a significant impact on the mental health of police officers and staff. The extant literature primarily highlights the impacts of organisational and operational risks for the development of adverse mental health outcomes for police populations, with more recent research identifying the significant risks associated with organisational stress. However, within the policing context there is a paucity of research that (i) evaluates mental health outcomes across the various domains of risk, including individual, operational, and organisational, (ii) considers the broader socio-environmental context within which the police operates, both as an organisation and within the wider community which they police, and (iii) uses participatory approaches to help translate knowledge of various risk factors for adverse mental health outcomes into improved policy and risk-mitigation strategies. The present study addresses these gaps in the literature and investigates adverse mental health outcomes for police within the post-conflict context of the Northern Ireland.

Objectives: (1) To identify those who, in policing, are most at risk of developing adverse mental health outcomes; (2) to identify potential risk and protective factors associated with adverse mental health outcomes that are unique to policing in the context of Northern Ireland; (3) to identify the individual, organisational, and operational risk factors associated with adverse mental health outcomes within the PSNI; (4) to develop a risk management strategy for the organisation in an attempt to reduce rates of adverse mental health consequences.

Methods: The aforementioned gaps within the literature were addressed using a multi-method, implementation research approach across four research phases. In phase one, a systematic literature review was conducted to examine and synthesise existing research investigating risk factors for the development of adverse mental health outcomes for police. In the second phase key informant interviews were conducted with PSNI personnel to gain knowledge of the context-specific stressors that they encounter both as a result of working for the PSNI as an organisation, as well as policing in a post-conflict setting. The first two phases were then used to inform the selection of the various measures of risk for the third phase, which consisted of a PSNI personnel survey of over (N=1,834) police officers and staff. Hierarchical regression was used to identify the individual, organisational and operational risk factors associated with adverse mental health outcomes. The findings from the first three phases of this study were then used to inform recommendations for the PSNI, which were subsequently presented for feedback in a focus group discussion, as the final phase of the study. The focus group discussion was held with the Senior Management Team of the PSNI’s Occupational Health and Wellness service where the proposed recommendations were reviewed for suitability, and feedback was obtained regarding potential barriers towards implementation. Ways to increase mental health service uptake within the organisation was also discussed.

Results: In the first phase, 414 articles were screened using title and abstracts, 57 articles were full-text reviewed and a final 20 articles were included in the systematic literature review. Seven of the articles included outcome measures for depression, three for anxiety, 12 for PTSD and seven for burnout. Each of these articles included at least one set of risk factor across individual, organisational or operational domains. The findings of the review revealed that there were significant risk factors across each of the different domains of stress on mental health outcomes. Very few of the studies however, included
risks across each of the domains of stress, and instead focused on a single domain for the analysis. Consequently, a multifactorial and multidimensional approach to understanding police mental health is necessary whereby individual, organisational and operational risks should all be included in the analysis to fully understand the impact of these risks.

In phase two, interviews were conducted with five officers and staff. Several context-specific stressors for police within the PSNI were identified, which included six key areas of stress: 1) austerity, 2) workload, 3) problems with management, 4) feeling of underappreciation or being unimportant to the organisation, 5) exposure to interpersonal trauma, and 6) the unique stressors associated with the post-conflict setting of Northern Ireland. Many of the stressors associated with working for the PSNI appear to be a result of under-resourcing and participants highlighted that the impacts of working for the PSNI are further exacerbated by the ongoing threat from dissident groups in Northern Ireland.

The results of the survey found that 34.4% of the participants met the diagnostic cut-off score for anxiety, 36.6% for depression, 9.8% for PTSD, 12.3% for Complex PTSD (CPTSD), 2.2% for burnout and 1.6% for secondary traumatic stress. The multiple hierarchical regression found that individual risk factors, namely personality and coping style, were the strongest predictors of anxiety, depression, PTSD and CPTSD. Organisational stressors also played an important role in predicting all mental health outcomes, and operational risks were significant for PTSD, CPTSD and STS.

Results from the focus group discussion resulted in the finalisation of six trauma risk management recommendations. The potential challenges identified by the focus group included lack of resourcing, potential non-compliance from officers and staff, and the various unintended consequences to the organisation as a result of implementing the recommendations. These potential barriers to implementation led to the adjustment of the recommendations in order to facilitate their uptake within the organisation.

Conclusion: The results of this study highlight that police mental health is a complexed issue with many contextual factors contributing to adverse mental health outcomes. Results imply that individual factors are highly relevant in understanding the mental health of police officers and staff and that the various domains of risk (individual, organisational and operational) are multifaceted and dynamic. Findings also highlight the significance of context, both within the organisation and the wider community, on psychological outcomes. Understanding the specific factors that contribute to risk for the development of adverse mental health of police officers and staff was important from the position of the PSNI, but this also raises questions with regards to national responsibilities for both the police service and other first responders.

This study advances our current knowledge on the topic of police mental health through a synthesis of findings from a systematic literature review on the various individual, organisational, and operational risks contributing to mental health, a set of qualitative interviews which provided context-sensitive data on policing in Northern Ireland, advanced quantitative analysis on the rates of adverse mental health outcomes and their various psychological risk factors, and finally a focus group discussion that provided information from key stakeholders about the barriers and facilitators of implementing recommendations towards a risk management strategy for the organisation. The implications of these findings for theory, policy, and practice are discussed.
Acknowledgements

The completion of this project wouldn’t have been possible without the amazing support of my supervisors, fellow doctoral students, my friends and my family. I would first like to thank Dr. Frédérique Vallières, Dr. Philip Hyland and Dr. Jamie Murphy for their continued encouragement and guidance throughout the last 3 and a half years. Dr Tracey Reid, thank you for always believing in me and making this a hugely positive experience. You have all been a huge source of inspiration and I feel very privileged to have been supervised by such incredible academics and psychologists. Thank you to all PSNI personnel who participated in this research, your time and assistance is greatly appreciated. A special thanks to Helen for all your amazing admirative work and for all the lovely chats we’ve shared along the way.

A huge thank you and congrats to my CONTEXT fellows – we did it! Without the eleven of you, this experience wouldn’t have been half as exciting. We shared so many amazing memories in Northern Ireland, Denmark and Dublin throughout this programme – both academically and as friends – and I am so proud to have completed this thesis with you all by my side. I know that I have made an amazing group of lifelong friends and I look forward to continuing to collaborate with you all professionally in the future. I have to give particular thanks to my ‘roomie’ Ida – you’re an absolute star!

Thank you to all the friends I have made along the way at TCD – being in the Centre for Global Health was an incredible experience and I have loved getting to know you all. You all have a special place in my heart and I will always remember the thoughtful surprise bridal shower you threw for me and the thoughtful gifts you gave for baby Isla. You are a one of a kind group and I thank you for always supporting me both academically and personally – you’ve made this journey so special. And to my best friends Cristina, Hailey, and Emily you girls have always kept me going even when we are thousands of miles apart. I appreciate you always checking up on me and giving me plenty of laughs along the way. You always keep me grounded and I miss you all so much. Aiden, thank you for encouraging me from the beginning to end of this research. You’ve been so supportive and always inspire me to do my best. And I couldn’t forget to thank my amazing mummy friends too!

I couldn’t have ever completed this PhD without the love and support of my incredible family. Mom and dad, you have given me so many blessings throughout my life and I am forever grateful for you both. Your encouragement and words of wisdom fostered my academic aspirations and allowed me to achieve the completion of this doctorate. I am forever grateful for all you’ve given me and I love you always. To Landon, Kendra and baby Beau, thank you for being such an inspiration and a true light in my life. I am so lucky to call you my family but even luckier to call you some of my dearest friends. You have given me so much encouragement throughout this process and I love you so much!

Finally, to my incredible husband and beautiful daughter, thank you for everything! Mark, your words of encouragement from the very start allowed me to fulfil my aspirations and be able to complete this thesis. You have been endlessly supportive, inspirational, caring and patient and I am so grateful for you. Baby Isla, you’ve given me so much motivation and you’ve been the biggest blessing of my life. You two have made me smile through the difficult times and celebrated with me through the accomplishments.
– I am eternally grateful for my beautiful family. You two are my rock and I love you endlessly!
Abbreviations

ACE: Adverse Childhood Experiences
ANOVA: Analysis of Variance
ASD: Acute Stress Disorder
CIHQ: Critical Incident History Questionnaire
CISM: Critical Incident Stress Management
CISD: Critical Incident Stress Debriefing
CPTSD: Complex Posttraumatic Stress Disorder
CSI: Crime Scene Investigation
DCS: Demand Control Support
DSM: Diagnostic and Statistical Manual
DSO: Disturbances of Self Organisation
FLO: Family Liaison Officer
GAD: General Anxiety Disorder
HR: Human Resources
HSE: Health and Safety Executive
ICAI: Internet Child Abuse Investigators
ICD: International Classification of Disease
ITQ: International Trauma Questionnaire
LEC: Life Events Checklist
MBI: Maslach’s Burnout Inventory
MHS: Mental Health Service
NISRA: Northern Ireland Statistic and Research Agency
NPCC: National Police Chiefs’ Council
OHW: Occupational Health and Wellness
PCL: PTSD Checklist
PCST: Police Complex Spiral Trauma
PFNI: Police Federation Northern Ireland
PHQ: Patient Health Questionnaire
PPU: Public Protection Unit
PPS-CPTSD: Police and Public-Safety Complex PTSD
Pro-QOL: Professional Quality of Life
PSNI: Police Service Northern Ireland
PTSD: Posttraumatic Stress Disorder
RTC: Road Traffic Collision
RUC: Royal Ulster Constabulary
SET: Senior Executive Team
SMT: Senior Management Team
SPOS: Survey of Perceived Organisational Support
STS: Secondary Traumatic Stress
SWEMWBS: Short Warwick-Edinburgh Mental Wellbeing Scale
TIPI: Ten Item Personality Inventory
UK: United Kingdom
WHO: World Health Organisation
WMH: World Mental Health Survey
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Chapter 1: Introduction

Trauma exposure is common across the lifespan, with approximately 70% of the global population experiencing at least one traumatic event in their lifetime (Benjet et al., 2016). For most, stress responses resulting from trauma exposure tend to pass with time, (Kessler, Sonnega, & Bromet, 1995; NIMH, 2017) and few go on to develop stress-related disorders. However, in circumstances where there is repeated exposure to stress or trauma, the consequences of mental health can accumulate and result in negative mental, as well as physical health outcomes, including posttraumatic stress disorder (PTSD), Acute Stress Disorder (ASD), interpersonal and social problems, insomnia, heart disease, cancer and depression (Warren, 2015; Violanti, 2010).

Police encounter traumatic events on a regular basis, subjecting them to chronic exposure to potentially traumatic situations. Examples of police traumatic exposure include being assaulted, the use of firearms against others, and witnessing dead bodies (Weiss et al., 2010). As a result, policing is recognised as one of the most high-risk and high stress occupations (Colwell, Lyons, Bruce, Garner, & Miller, 2011). The stress and exposure to traumatic events and materials involved in police work put officers at an increased risk of poor mental health outcomes (Andersen & Papazoglou, K., 2015; Garbarino, Cuomo, Chiorri, & Magnavita, 2013), impacting on officers’ psychological wellbeing and on the policing organisation as a whole. Specifically, research suggests that police officers experience greater anxiety, depression, burnout, PTSD, complex PTSD (CPTSD), and substance abuse, among other adverse outcomes in comparison to the general population (Asmundson & Stapleton, 2008; Austin-Ketch et al., 2012). While there is a growing body of evidence examining the impact of police work on the mental health of officers, police officers remain relatively understudied compared to other comparable populations, such as the combat veteran (Neylan et al., 2005). The risks
associated with poor mental health among police officers are particularly poorly understood, with the interplay of individual, organisational and operational risk factors yet to be explored.

1.1 Stress and Policing

Psychological trauma results from the inability to cope with a traumatic experience or prolonged traumatic experiences (Clohessy & Ehlers, 1999; Ellrich & Baier, 2017; Javidi & Yadollahie, 2012; Marchand, Boyer, Nadeau, Beaulieu-Prevost, & Martin, 2015). These disturbing or distressing events often involve the direct threat of bodily harm, or from witnessing or hearing about the harm of another individual – something that many police officers encounter on a regular basis. Moreover, certain types of policing, such as Crime Scene Investigation and Child Exploitation, involve exposure more severe traumatic material or events, resulting in a significantly increased risk for developing symptoms of PTSD (Violanti & Gehrke, 2004). Research from a policing context has identified that the severity of exposure to trauma and levels of peri-traumatic dissociation, dissociation which occurs during the traumatic event, strongly predict PTSD symptoms (Hodgins, Creamer, & Bell, 2001).

Previous research among the general population has identified specific risk factors for the development of trauma and stress-related disorders such as certain personality trait, gender and social support (Carlson et al., 2016; Carlson, Palmieri, & Spain, 2017; Tolin & Foa, 2006). Personal stressors such as going through a divorce, financial problems or the bereavement of a close family may also impact an on a police officer’s psychological wellbeing. In addition to these individual risks, stress an officer faces as a result of organisational strains and the culture of policing, coupled with the nature of police work can have a significant impact on officer mental health and overall well-being (Andersen, Papazoglou, Nyman, Koskelainen, & Gustafsberg, 2015;
Consequently, the constant presence and accumulation of organisational and operational stressors often make it very challenging to maintain psychological wellbeing.

Compassion fatigue, the physical and emotional exhaustion that can result from caring for others, can also have a significant impact on police officers’ ability to cope, causing cognitive, emotional and behaviour detriment (Andersen & Papazoglou, 2015). In sum, stress occurs across several dimensions of an officer’s personal and work life; these dimensions of stress not only intersect but have the potential to compound and exacerbate overall negative mental health outcomes.

1.2 The Police Service of Northern Ireland

Globally, officers are faced with the psychological consequences of the difficult work that they undertake. There are, however, variances in the mental wellbeing of officers in various parts of the world. This may be due to parallels of mental health within the general population, the types of exposure(s) officers face, the resources available to officers, and the stigma associated with mental health, among others. The Police Service of Northern Ireland (PSNI) is confronted with its own unique set of challenges which may contribute to the adverse mental health outcomes of its officers and staff. Some of these challenges include working in a post-conflict environment, a lack of resources, poor force strength (number of officers), an overwhelming demand for services, and stigma of poor mental health within the organization. Moreover, inadequate funding has had compounding impacts across the organization, including the ability to recruit and retain officers, maintain sufficient pay, increased workload for officers, and constant changes to procedures and practices (Lindsay, 2018a; Police Federation for Northern Ireland, 2016c, 2019). The funding currently available for policing is not only insufficient to meet a rising demand for police officers, but the PSNI continues to face further cuts (Police
Federation for Northern Ireland, 2019). As a result, the PSNI operates significantly below the recommended number of officers based on The Patten Report of 1999 (Independent Commission on Policing for Northern Ireland, 1999) and the 2013 PSNI Resilience Review. This lack of operational capacity has further impacted on the wellbeing of PSNI Officers.

1.3 Mental Health of PSNI Officers

The most recent World Mental Health (WMH) survey, conducted using nationally representative data from 26 countries found the highest prevalence of PTSD in Northern Ireland, with an 8.8% lifetime prevalence of PTSD (Benjet et al., 2016; Ferry et al., 2013). By comparison, lifetime prevalence of PTSD was only 2.2% in Spain (Olaya et al., 2015) and 2.3% in South Africa (Atwoli et al., 2013). This high prevalence may, in part, be explained by the country’s recent history of sectarian violence; a period lasting from 1968-1998, commonly referred to as ‘The Troubles’. It therefore follows that the high rates of PTSD among the general population are likely reflected within the PSNI. Moreover, the PSNI has faced many challenges since its inception and continues to encounter many hurdles in relation to their officer’s psychological wellbeing, including threats from dissident groups and being the target of terrorist attacks (Lindsay, 2018a; Police Service of Northern Ireland, 2016a).

The Police Federation of Northern Ireland (PFNI), who act as the Union for Police Officers in Northern Ireland, acknowledge that rates of poor mental health within the force are on the rise, greatly impacting on the service. A recent survey, conducted by the PFNI and titled the PFNI Workforce Survey (Police Federation for Northern Ireland, 2018), identified low rates of general mental wellbeing across the workforce (Ng et al., 2014). Officers who took part in the survey scored an average of 19.48 out of 35 points on the Short Warwick-Edinburgh Mental Wellbeing Scale (SWEMWBS), significantly
lower than scores of the general population in Northern Ireland (25.6 points) (Northern Ireland Statistics and Research Agency, 2018). Precise rates of poor mental health within the service are difficult to obtain however, due to limited surveying and a lack of regular psychological screenings. As a result, much of what is known regarding the poor mental health of officers within the PSNI relies predominantly on proxy indicators, such as reported absence due to sickness.

Recent reports suggest an increase in the rate of PSNI officers taking stress-related sick leave, as well as general increases in mental health problems and suicide amongst the PSNI (Head of Freedom of Information, 2015; Lindsay, 2016; Police Federation for Northern Ireland, 2019). The most recent published figures on mental health related sickness absence from work were recorded in 2016, revealing a near 60% increase in the number of sick days taken by PSNI Officers for mental health-related reasons between 2013 and 2015 (Police Federation for Northern Ireland, 2016c). In total, there were 37,674 sick days taken by PSNI Officers due to poor mental health in 2015, compared to 22,439 in 2013, with psychological illnesses making up the majority of long-term sickness absence (absence related to both physical and psychological reasons) within the organisation. Internal documentation from the PSNI suggests that the total days lost to sickness absence rose from 30% in 2017 to 34% in 2018 (Police Service of Northern Ireland, unpublished ). Moreover, 48% of officers report using their annual leave, rest days, or flexi-time due to address their mental health and wellbeing (Police Federation for Northern Ireland, 2018). So common was this practice that a new term, ‘leaveism’, was coined to describe the practice of taking annual leave in lieu of sick days. Overall, sickness absence was estimated to cost the exchequer £21 million between April 2015 and March 2016 (Police Federation for Northern Ireland, 2016a). Taken together, these
figures serve highlight the severity of the problem within the PSNI and the increasing need to address the psychological wellness of officers and staff within the organisation.

1.4 Study Rationale

Policing is identified throughout the literature as a high risk and high stress job and is associated with an increased risk of developing adverse psychological outcomes. While a number of studies have examined the associations between policing and mental health, a number of important gaps remain. Firstly, the majority of research currently available on policing and mental health tends to treat police officers as a homogenous population, and none have analysed the context specific risks on mental health outcomes. Additional research, which reflects the diverse and unique culture and environment in which police function, is therefore required. Identifying the stressors and traumatic exposures associated with policing in a post-conflict setting is important in order to design more specific interventions to more effectively mitigate the impact of psychological distress within the service.

Second, research on police mental health overwhelmingly focuses on the operational stressors associated with being in the line of duty, such as being shot at, witnessing death or being exposed to child abuse cases. However, this is only one domain of stress that police encounter. In addition to operational stress, it is widely recognised that organisational stress impacts on the psychological wellbeing of employees, with no reason to believe that this mechanism is absent within police organisations (van der Velden, Kleber, Grievink, & Yzermans, 2010). Similarly, and thirdly, officers are not exempt from the individual, or personal, stressors experienced outside of their work which may also impact on their psychological wellbeing. For example, Follette, Polusly, and Milbeck (1994), identified that nearly 20% of police officers experience a childhood trauma. Therefore, and in order to understand the risks of adverse mental health outcomes
among police officers, it is necessary to take into consideration the individual, organisational and operational factors at play. Specifically, a greater understanding of the differences in relative risk, the context in which police services are operating, and the various domains of stress that intersect and may compound to result in poor mental health is required. Failure to do so may have far reaching consequences on officers’ personal, social and occupational life. These impacts have the potential to extend beyond the individual and onto both the police service as an organisation as well as the community that they serve.

1.5 Research Aims and Objectives

Understanding, treating and preventing the negative impacts of psychological trauma and stress of emergency service personnel is of high priority and has been labelled as a critical issue (Garbarino et al., 2013). More specifically, participatory approaches are necessary to ensure that research outcomes are translated into acceptable and feasible changes in practice(s) within a given institution (Stirman, Gutner, Langdon, & Graham, 2016). To this end, implementation research offers a useful approach to assess and reduce work-related mental health disorders among police offices (Chirico, 2016). This research aims to investigate stress and trauma risk of PSNI officers and staff in terms of personal, organisational and operational stressors.

This aim will be achieved through the following research objectives:

1) to identify those who, in policing, are most at risk of developing adverse mental health outcomes

2) to identify the various risk and protective factors associated with adverse mental health outcomes for PSNI personnel

3) to establish an evidence base of mental health outcomes and their related risk factors for the PSNI’s Mental Health Services
4) to develop a risk management strategy for the PSNI to help reduce rates of adverse mental health consequences.

In order to reach these objectives, the study applies implementation research approaches across four corresponding research phases: 1) a systematic literature review, 2) preliminary interviews, 3) a PSNI-wide psychological survey and 4) a focus group discussion, whereby the systematic literature review and the preliminary interviews were used to develop the survey tool.

1.6 Significance of Study

This research firstly, contributes to current and future theory to guide our understanding of the various stress and trauma risks of police and, potentially, other emergency service personnel. In specific, relevant theories should reflect the interplay between individual, organisational and operational stress on the overall risk of adverse psychological outcomes. In addition to advancing our current understanding of the factors that determine the psychological wellbeing of police officers, findings from this study can be used to improve policy and practice within the PSNI.

By establishing an empirical evidence-base on the mental health of PSNI officers and staff, and particularly the risks associated with adverse mental health outcomes, this research has the ability to encourage changes in practice and policy for the organisation. These changes to policy, will, hopefully lead to more evidence-based practices in police work. By better understanding the various risks involved in police work, as well as those inherent to the individual, organisations can work to change the current practice of policing. This includes improvements to workload or rotation of shifts, through to implementing new and innovative psychological services.
1.7 Structure of the Thesis

Chapter 2 provides a comprehensive overview of the current literature surrounding policing and mental health. In specific, this chapter describes the background and context of policing in Northern Ireland, the various domains of stress, and compares and contrasts current theories of police mental health. Taken together, the literature review serves to provide a strong justification for the research objectives, and subsequent questions answered in the remainder of the thesis.

Chapter 3 begins by describing the philosophical underpinnings of the research, including a detailed description of its theoretical and epistemological approaches. The study strategy, implementation research, is also described. This is followed by a description of the methodological approaches of the research, broken down into four phases: 1) a systematic literature review, 2) preliminary interviews 3) a survey and 4) a focus group discussion; where research objective 1 is answered by phase 1, objectives 2 and 3 are accomplished by phases 2 and 3, and research objective 4 is achieved by a culmination of findings from all 4 phases. For each objective, participants and procedures, measurement tools and data analysis are described. Ethical considerations of the thesis, including informed consent procedures, are also described.

Chapter 4 presents the results of the systematic review and preliminary interviews. Results are discussed within the context of the literature reviewed in Chapter 2, and subsequently synthesised to derive the research’s theoretical framework. This theoretical framework is then taken forward to inform the PSNI Stress & Trauma Survey.

Chapter 5 presents the results of the PSNI Stress & Trauma Survey. This includes a comprehensive overview of the rates of adverse mental health (including anxiety, depression, Posttraumatic Stress Disorder, Complex Posttraumatic Stress Disorder and burnout) found among participating PSNI officers. Individual, operational and
organisational risks are also presented. Rates of adverse mental health and differential risks are presented by units and branches, police officers, operational staff and by secondary role. Findings serve to identify the most high-risk offices, based on adverse mental health outcomes, and a range of risk variables. Risk factors are also presented alongside key protective factors. Results are discussed and interpreted in the context of policing, and specifically within policing in Northern Ireland.

**Chapter 6** presents the results of the focus group discussions, arising from a presentation of the results of the PSNI Stress & Trauma Survey. Results are presented such that they address key issues surrounding the various personal, organisational and operational risk factors that lead to adverse psychological reactions experienced by officers and staff, as well as to provide recommendations for the organisation based on these findings. Results are synthesised to develop a risk management strategy that is both user-informed and practical in the context of the PSNI. The result is a set of specific recommendations, with special attention paid to the practicalities of implementing such a strategy. The discussion considers the barriers and facilitators to the uptake of such a strategy and the materials needed to facilitate its success within the PSNI.

**Chapter 7** triangulates the main empirical findings from each stage of the research in order to provide a conclusion of the final results and further develop psychological theory in police work. Key individual, organisational and operational factors are summarised. This chapter then goes on to outline the key limitations of the research. Chapter 7 also considers the implications of the study findings for theory, policy and practice.
Chapter 2: Literature Review

2.1 Traumatic Exposure and Mental Health

There is a considerable amount of research that documents the impact of traumatic exposure on mental health. Experiencing a traumatic event is a common phenomenon, with epidemiological studies reporting the lifetime prevalence of trauma exposure as ranging from 29 to 85% (Atwoli et al., 2013; Benjet et al., 2016; Creamer, Burgess, & McFarlane, 2001). What one individual considers traumatic, another may not, and the perception of the severity of the exposure, and the meaning given to the experience, has a direct influence on the psychological outcome (Cromer & Smyth, 2009). There are several contextual factors that affect the way in which exposure to trauma impact upon mental health, namely that of social context and culture (Bracken, 2002; Ungar, 2013).

2.2 Stress and Trauma

Stress and trauma can have significant impacts on an individual’s mental health. There are, however, differences between the concepts of stress and trauma, each with differential implications for mental health. Stress is something that every individual encounters in their daily life, although some experience stress more often or to a higher degree. The American Psychological Association defines stress as any uncomfortable ‘emotional experience accompanied by predictable biochemical, physiological and behavioural changes’ (Baum, 1990). Stress can result from a feeling of being overwhelmed or unable to cope in a particular situation (Mental Health Foundation), experiencing something unexpected or something we have not previously encountered, as well as something that threatens you or reduces the amount of control you feel you have in a situation (Centre for Studies on Human Stress, 2019).
Stress causes a disruption to our equilibrium through the release of hormones, caused from an inability to cope with a situation or traumatic event. Psychosocial stress has been linked to psychological disorders, particularly to the mood disorders of anxiety and depression (Gold, Goodwin, & Chrousos, 1988; Post, 1992). Chronic stress is defined as one of the most predominant mental health issues affecting modern society (Shepard & Coutellier, 2018). It is also considered the most damaging due to the long-term or permanent behavioural and emotional changes it causes, which can cause damaging neurological impact (Rice & Rice, 2012) and increase susceptibility to disease (Cohen, Kessler, & Gordon, 1995) (McEwen, Cacioppo, & Berntson, 2004).

In contrast, a trauma is defined by the American Psychological Association (2019) as a person’s emotional response to an extremely negative or disturbing event. Psychological trauma results from the inability to cope with a traumatic experience or prolonged traumatic experiences (Benjet et al., 2016). These disturbing or distressing events often involve the direct threat of bodily harm, or from witnessing or hearing about the harm of another individual. The Diagnostic and Statistical Manual (DSM-5) defines a trauma as an event that requires “actual or threat of death, serious injury or sexual violence” (American Psychiatric Association, 2013).

Trauma exposure can be primary, where the trauma directly impacts the individual, or secondary, the learning or knowing about a traumatising experience that has happened to another person (Figley, 1995). The symptoms of secondary traumatic stress (STS) mirror those experienced by someone who has experienced a primary exposure to trauma and may include manifestations such as nightmares, intrusive thoughts, and avoidance (Newell & MacNeil, 2010). Trauma exposure can be detrimental to mental well-being and may lead to various negative psychological outcomes. Trauma exposure is specifically linked to the psychological outcomes of Posttraumatic Stress

2.3 Psychological responses to stress and trauma

It is widely accepted that stressful and traumatic events can lead to psychological disorders, including anxiety, depression, substance use disorder, and PTSD (Mazure, 1998). Underpinning the psychological outcomes of stress and trauma are a variety of theories developed to explain the aetiology of these disorders as well as the individual and occupational risk factors, as well as protective factors, that impact on negative mental health outcomes. Responses to stress and trauma differ however in their aetiology, diagnostic criterion and their presentation, and can vary based on the classification system used. Ongoing advancements in identifying psychological responses to stress and trauma have also resulted in new diagnoses.

2.3.1 Measuring trauma and stress response

The two main classification systems for psychological disorders include the *International Classification of Diseases and Related Health Problems* (ICD) (World Health Organization, 2017) and the American Psychiatric Association *Diagnostic and Statistical Manual of Mental Disorders* (DSM) (American Psychiatric Association, 2013). Each of these classification systems outline the requirements for meeting a diagnostic threshold for various mental health disorders, with some important conceptual differences. The DSM originated in the United States and was created within the discipline of psychiatry, while the ICD is published by the World Health Organization (WHO), with its most recent edition adopted by 193 Member States. The ICD is also used by healthcare providers in the United States, as a recognised diagnostic system by insurers (Cloitre et al., 2019).
These two classification systems also have differing criterion for diagnosis across a number of disorders. There are particular implications for PTSD diagnosis when comparing the two classification systems, whereby the DSM-5 has been found to yield higher prevalence rates of PTSD in comparison to the ICD-11 (Kuester et al., 2017; Shevlin et al., 2018). The DSM-5 includes eight criterion to meet a diagnosis of PTSD as well as two specifications. To meet the diagnostic criteria for PTSD in the DSM-5 an individual must experience a traumatic event categorised as death or threatened death, serious injury or threatened serious injury, or sexual violence or threatened sexual violence. They must also display one re-experiencing, one avoidance, two arousal and reactivity related, and two negative thoughts and feelings related symptoms. In addition, the individual must experience functional impairment, each symptom must be present for a minimum of one month, and the symptoms must not be due to medication, substance, or other illness. Finally, according to the DSM-5, the individual must meet one dissociative specification, either depersonalisation or derealisation, and full diagnostic criteria is not met until a minimum of six months after experiencing the trauma.

In contrast, ICD-11 PTSD symptoms have been streamlined in accordance with recommendations from Brewin and colleagues (Brewin, Lanius, Novac, Schnyder, & Galea, 2009), to three “core elements”, excluding non-specific symptoms which have cross-over with other psychological disorders. In order to reach a diagnosis for PTSD under the ICD-11 diagnostic criteria for PTSD, an individual must endorse a symptom from the each of the following symptom clusters: re-experiencing in the here and now, avoidance and sense of current threat. In addition, they musts also endorse at least one functional impairment associated with the symptoms.

Another difference between the two classification systems is that the measurement tools used to identify diagnostic levels of mental health disorders varies. While the ICD-
11 offers measurement tools for diagnosing the various mental health disorders included in the classification system, the DSM does not directly provide specific diagnostic measurement tools. For example, the International Trauma Questionnaire (ITQ) (Cloitre et al., 2018) is used to measure PTSD and CPTSD based on the diagnostic criteria outlined in the ICD-11. However various measures may be used to measure PTSD based on the 20 symptoms and criteria outlined in the DSM-5. Some examples of the diagnostic measures used include the PTSD Checklist (PCL-5) (Weathers, Litz, et al., 2013), the Posttraumatic Diagnostic Scale (PDS-5) (Foa et al., 2016), and the Clinician-Administered PTSD Scale for DSM-5 (Weathers, Blake, et al., 2013). In addition, traumatic exposure scales, such as the Life Events Checklist (LEC-5) (Weathers, Blake, et al., 2013) are often used in combination with the diagnostic tools to establish exposure to the DSM-5 PTSD criterion A.

As existing psychological disorders continue to be refined through evidence, new diagnoses also emerge. The DSM-5 for example, made significant changes in how stress and trauma related disorders are defined, removing them from the anxiety disorder category into a discrete category named “Trauma and Stressor-Related Disorders”. Similarly, the ICD-11 added a category classified as “Disorders Specifically Associated with Stress” (World Health Organisation, 2018b). The DSM-5 now includes a dissociative subtype for PTSD which focuses on symptoms of depersonalisation and derealisation (Lanius, Brand, Vermetten, Frewen, & Spiegel, 2012; Wolf et al., 2012). Additionally, based on recommendations from Scheeringa and colleagues (2011), the DSM-5 has introduced an additional algorithm for PTSD in young children. The ICD-11 also includes several new psychological disorders under the stress disorders category, such as Complex Posttraumatic Stress Disorder and Prolonged Grief Disorder. While CPTSD marks a conceptual progression for stress and trauma disorders within the ICD-
11, the DSM-5’s Posttraumatic and Dissociative Disorders Sub-Work Group decided that there was not enough evidence to validate the CPTSD diagnosis for the DSM-5 (Friedman & Resick, 2014). The ICD-11 has outlined criterion for Complex PTSD to include the three symptoms of PTSD with three additional symptoms of disturbance of self-organisation – emotional dysregulation, interpersonal difficulties, and negative self-concept (World Health Organisation, 2018b). The inclusion of dissociative subtype of PTSD and CPTSD in these classification systems thus provide an example of how our understanding of stress, trauma and their related disorders continues to develop and expand, particularly with a focus on the aetiology of mental health disorders (Berntsen, Rubin, & Johansen, 2008).

### 2.4 Established responses to stress and trauma

In most situations stress tends to pass with time and very few people will develop a stress-related disorder (Institute for Health Metrics and Evaluation, 2017; Mazure, 1998). Moreover, excessive stress alone is enough to cause permanent psychiatric disorders (Weisaeth, 2014). Likewise, most individuals who experience a traumatic situation will not go on to develop a trauma-related disorder, with approximately one in three people who experience trauma developing symptoms of PTSD (Timms, 2019). However, for those who do go on to develop adverse reactions to stress and trauma the consequences can be debilitating and the more negative the appraisals of trauma and posttraumatic symptoms are, the more negatively individuals are impacted by the event (Ehlers & Clark, 2000).

There are various trauma and stress-related disorders identified across the literature. In addition to the aforementioned PTSD and CPTSD, these also include Acute Stress Disorder (ASD), STS, depression, anxiety, interpersonal and social problems (Violanti et al., 2011; Warren, 2015). In addition, other stress and trauma related mental
health problems include misuse of alcohol or drugs, withdrawal from friends and family, have trouble controlling anger, self-harm, and/or sleep disturbances (Marmar et al., 2006). The most prevalent among these however remain anxiety, depression, and PTSD.

2.4.1 Anxiety

Anxiety disorders are the most prevalent of all stress and trauma related mental health disorders (Bandelow & Michaelis, 2015). Although many studies identify anxiety as the most prevalent mental illness globally, the World Health Organisation has identified anxiety as the second most common, following depression (2018). Twice as likely to occur in women than in men, anxiety is characterised by both psychological and physiological reactions including feelings of threat, loss of control, impending doom, irritability, restlessness, dry mouth, sweating, sleep disturbance, muscle pains, tension and palpitations (Drummond, 2018; Tyrer & Baldwin, 2006). While we all experience various levels of anxiety at some time in our lives, generalised anxiety disorder occurs when anxiety begins to negatively impact our lives, developing beyond specific events and leading to a long-term, general anxiety about situations in daily living, across a wide variety of situations, and leading to the impairment of daily functioning in various domains of life (National Health Service, 2018). According to both the ICD-11 and the DSM-V, general anxiety disorder is diagnosed after six months of at least three different symptoms (American Psychiatric Association, 2013; World Health Organisation, 2018b).

Cognitive models of anxiety propose that anxiety is a result of the way in which an individual appraises an impending threat. An anxious individual has a cognitive tendency to see threats in many locations, to overestimate the threat associated with different events, and to underestimate one’s own capacity to cope with the event (Ehlers & Clark, 2000). The appraisal of threat may lead to feelings such as worry or fear that can
be mild or severe. From the perspective of cognitive theory, anxiety itself is not the problem, but the overreactive cognitive patterns and schema related to the danger (Ehlers & Clark, 2000). Anxiety becomes problematic when an individual feels anxious much more frequently or severely than can be tolerated or that they are used to (Drummond, 2018).

While no direct cause has been identified for why some individuals develop generalised anxiety disorder, there is a vast amount of research regarding particular risk factors including early life stressors and other negative childhood experiences, such as adverse family environment (i.e. parental loss or divorce) and childhood maltreatment (i.e. severe neglect or physical/sexual abuse), other stressful events throughout the lifetime, and other mental health problems (Jacobson & Newman, 2017; Lähdepuro et al., 2019; Nugent, Tyrka, Carpenter, & Price, 2011; Rehan, Antfolk, Johansson, Jern, & Santtila, 2017). Specifically a comorbidity of depression and anxiety is most frequent, with up to 70% of patients with depression also having symptoms of anxiety (Lamers et al., 2011; Wu & Fang, 2014). Moreover, early life stressors have been found to differentially impact on the nature and onset of mental health outcomes depending on the developmental timing of the stressors and the chronicity of the stressors (Maercker et al., 2004; McCormick & Mathews, 2010). Longstanding literature on chronic stress has also identified its association to anxiety disorder (Tafet & Bernardini, 2003).

2.4.2 Depression

In addition to anxiety, depression is one of the most common mental health disorders associated with trauma and stress. To be diagnosed with depression, one must have a symptom of depressed mood or loss of interest or pleasure, in combination with other symptoms such as sudden weight loss, fatigue or feelings of worthlessness (American Psychiatric Association, 2013). Although anxiety has been identified by previous studies
as the most common stress and trauma related mental illness, the World Health Organisation states that depression is the leading cause of disability worldwide, with more than 300 million people suffering globally (4.4% of the world’s population) (Kessler et al., 2005; World Health Organisation, 2018a). In addition to being the leading cause of disability worldwide, depression is also the leading cause of premature death (Ferrari et al., 2013). Depression can be categorised as mild, moderate or severe, where the most severe cases associated with greater risk of suicide (Angst, Angst, & Stassen, 1999), whereby depression is the major factor in over 800,000 suicides per year (World Health Organisation, 2017).

Although anyone can be affected by depression, there are specific risk factors which make some individuals more vulnerable to the disorder. More women are affected by depression and the highest levels of depression are seen to occur in later life (between the ages of 55 and 70) (Global Burden of Disease Collaborative Network, 2015). Similarly to anxiety, early life stressors, such as child maltreatment, are also associated with depression and depressive symptoms (Nugent et al., 2011). Additionally, early life psychosocial factors such as perceived unpopularity among peers or poor perception of familial role have been identified as early life risk factors for the development of depression (Reinherz et al., 1993). Stressful adverse life experiences influence the onset and course of depression (Caspi et al., 2003) and chronic stress is also widely recognised for its association with depression (Tafet & Bernardini, 2003).

In line with cognitive theory, people with depression often have a negative view of their world, themselves and the future, as well as general negative inferences (Ehlers & Clark, 2000). Beck’s cognitive theory was first applied to depression and posited that thought patterns, particularly those focused on the self, the world and the future, become negatively biased in a way that perpetuates depressive episodes (Beck, 1967). These
negative thoughts, such as “I am worthless,” “no one cares about me,” or “things will never change” serve as dysfunctional views and perpetuate depressive thoughts. Importantly, it has been established that the experience of trauma is linked to the development of depression. It is postulated that the association between trauma and depression lies in the emotional dysregulation that can occur following a traumatic experience (Dvir, Ford, Hill, & Frazier, 2014). After a traumatic experience it is common to have feelings of intense sadness, numbness, disconnectedness, lack of emotions and trouble sleeping and eating. However, if these symptoms persist longer than two weeks or lead to suicidal thoughts, the individual may be experiencing a more serious bout of depression (Depression and Bipolar Support Alliance).

2.4.3 Posttraumatic Stress Disorder

In addition to the mood disorders of anxiety and depression, the adverse psychological reaction directly related to the experience of a traumatic event is that of Posttraumatic Stress Disorder. It has been outlined that in order for an event to be traumatising it must meet three criterion: the event must be sudden, uncontrollable and have an extremely negative valence (Carlson & Dalenberg, 2000). However, even if an event is conceptualised by these three criteria it may not necessarily be deemed as traumatic for the individual. The severity of traumatic exposure, particularly if there is a direct risk to life, strongly predicts the development of PTSD symptoms (Hodgins et al., 2001). In epidemiological research, unexpected death of a loved one is the most common trauma to be linked to the development of PTSD (Olaya et al., 2015). Posttraumatic stress is common after a traumatic event and is not considered a disorder, but instead a normal reaction to abnormal or traumatic events (Maercker & Horn, 2013). The symptoms of posttraumatic stress disorder include hypervigilance, reexperiencing of the event, and avoidance of particular stimuli that remind the individual of the event (World Health
Organisation, 2018b). Although these symptoms often alleviate in the weeks following a traumatic experience, for some, they persist and can lead to a diagnosis of PTSD if lasting for longer than several weeks.

The persistent responses of reexperiencing and avoidance an individual experiences after a traumatic event can also be explained by cognitive theories of trauma (Carlson & Dalenberg, 2000). Ehlers and Clark (2000) propose the intrusive characteristics and the retrieval patterns which are linked to persistent PTSD are due to the way trauma is imprinted in memory. Sufferers of PTSD often view the world as a dangerous place and have excessively negative appraisals of potential threats. Further, if an individual tries to suppress thoughts of the trauma, the frequency of intrusive thoughts will increase (Ehlers & Clark, 2000). Cognitive models of PTSD identify that an inability to see the trauma as a past experience and maintaining a current sense of threat after a traumatic experience puts the individual at a higher risk for the disorder (Ehlers & Clark, 2000). Additionally, negative appraisals of the event, including thoughts of “I deserve this” or “I can’t cope” causes further distressing emotions, results in the maintenance of PTSD, and can exacerbate symptoms of PTSD (Knuckey, Satterthwaite, & Brown, 2017).

While the traumatic experiences itself was long thought to be the main cause of PTSD, ongoing research suggests that there are various other individual, social and distal factors that play a role in the development of the disorder (Laurel, Raines, & Hurlocker, 2019; Maercker & Horn, 2013).

2.4.4 Complex Posttraumatic Stress Disorder

Related to PTSD, CPTSD is comprised of six clusters and includes the three symptoms of PTSD (hypervigilance, avoidance and reexperiencing) with an additional set of symptoms that fall under a category of disturbances of self-organisation. Within the disturbances of self-organisation there are three symptom criterion; emotional dysregulation,
interpersonal difficulties, and negative self-concept (World Health Organisation, 2018b). While PTSD and CPTSD are related they are also distinct disorders (Cloitre et al., 2019; Hyland, Karatzias, Shevlin, Cloitre, & Ben-Ezra, 2020). And while both require exposure to a traumatic event, CPTSD is more likely to occur as a result of prolonged or recurring traumatic exposure (Hyland et al., 2020). Further, research has shown that while cumulative adult trauma is associated with both PTSD and CPTSD, exposure to childhood cumulative trauma is more highly associated with CPTSD (Cloitre et al., 2019). When compared to PTSD, CPTSD is also associated with greater functional impairment (Brewin et al., 2017), leading some to qualify CPTSD as a more severe disorder (Cloitre et al., 2019).

CPTSD symptoms acknowledge not only the fear and horror associated with the traumatic event, but also the negative impact on self-organisation resulting from prolonged or chronic traumas. The deteriorations of sense of self as well as emotional and relational capacities are highlighted in the symptomology of CTPSD (Cloitre et al., 2019). For children and adolescents, CPTSD symptoms can further impact on their opportunities for healthy development in sense of self, emotional capacities, and relational capacities. It appears that the particular type of traumatic exposure and the frequency of childhood trauma exposure increases the risk of CPTSD, where the effect of childhood trauma exposure is stronger than exposure in adulthood (Cloitre et al., 2019; Cloitre et al., 2009).

2.5 Prevalence of adverse psychological responses

The Global Burden of Disease Study produced by The Institute for Health Metrics and Evaluation (2017) estimates that currently 792 million people live with a Mental Disorder – or more than one in 10 people globally (10.7%). As a result, mental disorders are among the leading cause of disability and ill-health worldwide and are the leading cause (32.4%) of years lived with disability (Vigo, Thornicroft, & Atun, 2016; World Health
Prevalence rates for stress and trauma-related mental health disorders appear to be on the incline over the last several decades (Institute for Health Metrics and Evaluation, 2017; Tucci & Moukaddam, 2017). Although there are some methodological challenges with prevalence data for the global burden of mental health disorders, meta-analysis also identifies slight increases in prevalence rates over time (Richter, Wall, Bruen, & Whittington, 2019).

Prevalence rates are often described in three different formats: lifetime prevalence, period prevalence and point prevalence. Lifetime prevalence rates are often used to identify the percentage of individuals in a given population who have experienced a certain condition or disease at any time during their lives. Period prevalence refers to the proportion of a population that has had the condition or disease at any point during a given period of time, such as over the last 12 months. Point prevalence indicates the proportion of individuals in a population that have a particular condition or disease at a specific point in time, such as the number of people who are currently suffering, which is most common when discussing general prevalence rates.

Prevalence rates of stress-related disorders vary greatly. The Global Burden of Disease Study found that the most common mental health disorder is anxiety (2017). There is a large range in the lifetime prevalence of various stress and trauma related disorders globally. Lifetime prevalence of anxiety disorders range between 5 and 25%, with 12-month prevalence between 3.3% and 20.4% globally (2009). Lifetime prevalence of major depression ranged from 6.5 to 21%, and 12-month prevalence between 3 to 10.4% (Kessler & Bromet, 2013). The differences in the prevalence of anxiety and depression across the world is likely a result of varying socio-political contexts, as well as ethnocultural differences between countries.
Similarly, rates of lifetime prevalence of PTSD have also shown to vary greatly by country (Benjet et al., 2016; Wittchen et al., 2011). In Europe, a study of eleven countries revealed that there is more than a ten-fold difference in lifetime prevalence of PTSD across countries, ranging from 0.56% in Spain to 6.67% in Croatia (Wittchen et al., 2011). The variation in trauma exposures across the world appears to reflect the various political, historical and cultural factors present across regions (Atwoli, Stein, Koenen, & McLaughlin, 2015). Understanding how differences in socio-political context contribute to psychological responses to trauma in addition to a range of individual protective or risk factors is therefore important to our understanding adverse mental health outcomes.

2.6 Risk factors for adverse psychological responses to stress

2.6.1 Individual risk and protective factors

Research has identified specific risk factors for the development of trauma and stress-related disorders including personality traits, sex, and social support (Carlson et al., 2016; Carlson et al., 2017; Tolin & Foa, 2006). As previously mentioned, females appear to be at a higher risk of developing certain adverse mental health outcomes when compared to males (Hartley, Sarkisian, Violanti, Andrew, & Burchfiel, 2013; Tehrani, 2016). Having a prior or family history of psychopathology (Inslicht et al., 2010), poor sleep quality (Slaven et al., 2011), scoring high on the personality traits of neuroticism and introversion, life stress, adverse childhood experiences, and negative coping styles have all been identified as risk factors for the development of trauma and stress-related disorders, including depression and anxiety (Howsare, et al., 2013; Carlson & Dalenberg, 2000; de Graaf, Bijl, Ravelli, Smit, & Vollebergh, 2002; De Venter, Demyttenaere, & Bruffaerts, 2013; Garbarino et al., 2013; Javidi & Yadollahihe, 2012; Schnurr & Vielhauer, 2000; Yuan et al., 2011).
It is widely accepted that social support is a strong protective factor against the development of mental health problems, as well as providing resilience against poor mental health outcomes (Ozbay et al., 2007). For example, lack of social support and being single or divorced was found to be a significant predictor of PTSD (Komarovskaya et al., 2011). Furthermore, previous research has identified that higher levels of social support are associated with lower levels of PTSD symptoms (Maia et al., 2011; Martin, Marchand, & Boyer, 2009; Yuan et al., 2011). Additionally, a meta-analysis of risk factors for the development of PTSD found that one of the factors most strongly associated with PTSD after exposure to a traumatic event is a perceived lack of social support (Brewin, Andrews, & Valentine, 2000). Individual psychological outcomes after a traumatic event are thus influenced by personal resources, including resilience, and environmental resources (Cloitre et al., 2019). This concept aligns itself with the social capital theory, whereby it has been identified that social networks are the foundation of social capital, and thus social support is an important component of the social network (Dubos, 2017).

Social support also plays a role in preventing depression (Habersaat, Geiger, Abdellaoui, & Wolf, 2015), anxiety (Garbarino et al., 2013), burnout (Brady, 2016; Fyhn, Fjell, & Johnsen, 2016) and secondary traumatic stress (Kunst, Saan, Bollen, & Kuijpers, 2017). Emotional support is significantly associated with better mental health outcomes (Saxon et al., 2017).

Culture plays an intrinsic role in social support, whereby different cultures seek and utilise social support in different ways to buffer psychological responses to stress. In collectivist cultures the use of implicit social support, whereby an individual finds emotional comfort in their social networks without needing to discuss or disclose the stressful event, provides increased benefit. In contrast, people in individualistic cultures experience increased benefit from explicit social support, where an individual can
disclose their stressful situation and avail of advice, emotional comfort and direct support (Taylor, Welch, Kim, & Sherman, 2007). Culture not only impacts how individuals seek social support but also how much it will benefit them. Those from Asian decent describe social support as less beneficial in comparison to European Americans due to the relational impacts that it may have in their close-knit community (Taylor et al., 2007). Therefore, while social support has been identified as a strong protective factor against mental health disorders, the culture and context of the social support, as well as how it is accessed, should also be considered.

Other social factors such as community function and support, family function and support, and leisure activities have been found to moderate how people respond to traumatic events (Bisson, 2009). Related to the concept of social support, other social factors can protect an individual from the development of adverse psychological reactions as a result of trauma and stress exposure. One of the most commonly studied is relationship status, whereby those in a committed relationship are much less likely to develop poor mental health (Braithwaite & Holt-Lunstad, 2017; Simon, 2002). For example, being single or divorced was a risk factor for the development of PTSD (Komarovskaya et al., 2011). Similarly, being married has been identified as the most consistent protective factor for the development poor mental health (Wilson & Oswald, 2005).

Much of the literature indicates that developmental traumas and adverse childhood experiences (ACE’s), particularly sexual and physical abuse by caregivers, can significantly impact the risk for developing adverse mental health outcomes through impeding the development of a positive and coherent sense of self, as well as on the proper development of socioemotional competencies (Cook et al., 2005; Karatzias & Levendosky, 2019). As identified in section 2.4.4, cumulative trauma in childhood is a
particularly strong risk factor for the development of CPTSD in later life (Cloitre et al., 2019).

The type of trauma or stress that a person encounters also influences an individual’s psychological well-being (Cloitre et al., 2019). Interpersonal trauma, as a traumatic experience in which a person intentionally harms, or attempts to harm, another person, is associated with an increased negative affect on mental health compared to non-interpersonal trauma, as a form of trauma that is accidental or without intent (e.g. a car collision or natural disaster) (Do, Correa-Velez, & Dunne, 2019). Higher rates of psychopathology are found in survivors of interpersonal trauma when compared to survivors of trauma which are non-interpersonal (Karatzias, Jowett, Begley, & Deas, 2016).

Additionally, research has found that pre-trauma stress decreases an individuals’ capability to cope with the trauma (Carlson & Dalenberg, 2000). Coping style thus poses a personal risk to individuals, where emotional and passive coping, as well as avoidance, are all associated with higher PTSD, anxiety and depression symptomology (Howsare et al., 2013; Habersaat et al., 2015; Marchand et al., 2015). Adaptive responses to stressful and traumatic situations, if acute, can protect an individual, however if the individual is unable to stop the stress response, or if the exposure is chronic, then sustained responses are thought to lead to psychopathology (Do et al., 2019; Martin, Cromer, Deprince, & Freyd, 2013; Suliman et al., 2009; Tafet & Bernardini, 2003) and negative physical health outcomes (Warren, 2015; Violanti, 2010). Females are more likely to use emotion-focused coping styles which may lead to higher levels of psychological distress, as well as anxiety and depression symptoms (Matud, 2004). Furthermore, Kelly, Tyrka, Price, and Carpenter (2008) found that sex was a moderator of coping styles and mental health
outcomes and that coping style further underscores the differences in clinical presentation.

Whereas emotional and passive coping, as well as avoidance are associated with higher risk of PTSD, active coping and cognitive restructuring have been identified as protectors against the development of anxiety. Coping using humour, emotional support, active coping, religion and acceptance are all significantly associated with better mental health outcomes (Saxon et al., 2017). Overall, positive coping strategies have been linked with increased resilience against the development of adverse mental health outcomes (Shing, Jayawickreme, & Waugh, 2016). Certain personality traits have also been identified as protectors, namely agreeableness, extraversion and emotional stability (Howsare et al., 2013; Garbarino et al., 2013; Peng et al., 2012). Finally, resilience is negatively correlated with poor mental health, as has been found to moderate negative life events and poor mental health (Peng et al., 2012).

The American Psychological Association (2014) defines resilience as “the process of adapting well in the face of adversity, trauma, tragedy, threats or even significant sources of stress” (paragraph 4). Although many individuals may suffer the negative impacts of stress and trauma, there are many who will thrive and build on their strengths when faced with adversity. Individuals who are secure and are functioning well tend to tolerate challenges better. It is also pertinent to highlight that resilience is influenced from context and culture (Masten & Obradovic, 2008). Masten (2001) has identified that there are a range of ordinary factors which may contribute to an individual’s resiliency such as personality, family and relationships. Although there are no clear factors that make an individual resilient.

Research focused specifically on work-place mental health has identified various factors that protect employee mental health in the work-place. These include age, gender
and education level. Younger age was associated with less mental health problems, males were more protected from the impacts of workplace stress in comparison to females, and an education level of postsecondary and lower was associated with maintaining good mental health in a stressful work environment (Skuzińska, Mieczysław, & Wojciech, 2020; Tehrani, 2016). However, there are various occupational risk and protective factors that impact on mental health.

2.6.2 Occupational risk and protective factors

While individual factors have a large influence over mental health outcomes after experiencing stress and trauma, occupational factors also impact on the risk of developing adverse mental health outcomes for working populations. Particularly, occupations of high stress, such as military personnel and first responders (Lieberman, 2018), place individuals at higher risk of traumatic exposure and, consequently, negative mental health outcomes and poor well-being (Purba & Demou, 2019). In addition to the aforementioned risk factors, there are various occupational factors that contribute to an increased risk of developing poor psychological outcomes in the workplace.

Workplace stress has been well researched throughout the years (Martinussen, Richardsen, & Burke, 2007) and previous research identified that negative workplace behaviours present significant mental health risk. Workplace bullying for example, has severe implications for both the employee and the organisation. Performance may be hindered on the job and the impact of bullying has been found to cause an increase in mental health disorders (Matthiesen & Einarsen, 2004). Workplace bullying significantly predicted various negative mental health outcomes for employees, including anxiety, depression, burnout, PTSD, general distress, irritation, psychosomatic responses, and overall lower self-confidence and mental fatigue (Agervold & Mikkelsen, 2004; Bonde et al., 2016; Matthiesen & Einarsen, 2004; Mikkelsen & Einarsen, 2002). Previous research
has also identified that the impacts of negative behaviour in the workplace are even higher when the perpetrator of bullying is a superior, rather than a co-worker (Skuzińska et al., 2020). Additionally, when an individual is singled out with negative workplace behaviour or if the negative workplace behaviour is prolonged for a number of years, the higher the risk to their mental health (Skuzińska et al., 2020). The work environment hypothesis is thus a favourable model that describes the interconnections between the work environment and the conditions present that lead to bullying (Leymann, 1996). This model suggests that a stressful work environment and one that is poorly organised may lead to bullying in work. Psychosocial conditions such as management style, role conflict, social climate and control at work lead to an environment in which bullying in more pervasive (Skogstad, Torsheim, Einarsen, & Hauge, 2011).

In contrast, an increase in organisational support is also associated with higher rates of psychological well-being (Leitão, Mc Carthy, & Greiner, 2018). When supervisors provide social support to employees it acts as a protective factor from work stress (Luszczynska & Cieslak, 2005). Social support from colleagues also buffered the effects of work stress and this buffering effect was more frequent when personality factors were also considered (Luszczynska & Cieslak, 2005). Generally, it has also been found that given the right social factors, employment has the potential to be a moderator of stress responses to traumatic events (Bisson, 2009).

High demands in the workplace have also been associated with stress responses (Leitão et al., 2018), whereby excessive demand in the workplace can lead to emotional and physical exhaustion (Maslach & Leiter, 2017). Additionally, the amount of control that one has in their job has been linked to negative mental health outcomes. Low job control has been identified as a risk factor for poor psychological outcomes (Marmot et al., 1991; Stansfeld, Rasul, Head, & Singleton, 2011). Contrastingly, organisational
commitment and perceived control in the workplace protect against the development of poor mental health (Andrew et al., 2013). The unique nature in which demand and control intersect and can compound stress is further described in the Demand Control Support model presented later in this chapter.

Another occupational risk factor for poor mental health is burnout. Burnout is common amongst employees who experience chronic work-related stress and has been observed in a variety of occupations including human service professionals, air traffic controllers, police, production workers and transport workers (Demerouti, Bakker, Nachreiner, & Schaufeli, 2001; Martinussen & Richardsen, 2006; Martinussen et al., 2007). Likewise, working with vulnerable populations presents a direct emotional and psychological risk. For example, professions who work with trauma, social work, mental health, first response, victims assistance, and various other helping occupations, are exposed regularly to individuals who have endured traumatic events (Molnar et al., 2017), which can result in vicarious trauma and secondary traumatic stress. Secondary traumatic stress is thus a stress response arising as a result of hearing about or witnessing the trauma experienced by someone else (Bride, Robinson, Yegidis, & Figley, 2004; Figley, 1995) and presents as many of the similar symptoms to PTSD (Bride, 2007), including arousal, avoidance and intrusion (Maceachern, Jindal-Snape, & Jackson, 2011). Both burnout and secondary traumatic stress are linked to the high demands placed on human service workers. It has been identified that the demands of work can lead to burnout and thus increase the risk of secondary traumatic stress (Shoji et al., 2015). The term compassion fatigue is also used to describe the negative effects, including burnout and secondary traumatic stress, of working within trauma-focused work (Molnar et al., 2017).

2.6.2.1 Compassion Fatigue: an occupation-related response to stress

While compassion fatigue is a descriptive term and not a diagnosis, it can have a
significant impact on an individual’s ability to cope, causing cognitive, emotional and behaviour detriment (Andersen & Papazoglou, 2015). Compassion fatigue can lead to higher vulnerability for the development of stress and trauma related disorders such as depression or PTSD (Figley & Roop, 2008; Pearlman & Caringi, 2009). Compassion fatigue encompasses many dimensions of occupational risk, specifically including burnout and secondary traumatic stress. Compassion fatigue has been described in numerous ways, leading to a lack of consensus across the literature about the definitions of the terms secondary trauma, vicarious trauma and burnout in relation to compassion fatigue. For example, some researchers, clinicians and other professionals would use the terms secondary traumatic stress and compassion fatigue interchangeably, while others define compassion fatigue by symptoms of burnout and secondary traumatic stress (Molnar et al., 2017; Nimmo & Huggards, 2013; Stamm, 2009).

The most applicable conceptualisation of compassion fatigue is identified in the Professional Quality of Life model presented by Stamm (2009) whereby professional quality of life is identified as the quality an individual feels as a result of working as a helper. This theory states that there are both positive (compassion satisfaction) and negative (compassion fatigue) aspects of working as a helper, see figure 2.1 below. Compassion fatigue further breaks into two parts. The first is secondary trauma, which is a negative feeling driven by fear and work-related, secondary exposure to trauma. Similar to the experiencing of direct trauma, secondary traumatic stress, appears to arise due to the feelings of threat to one’s personal safety (Huggard et al., 2013). Stamm states that there are many similar characteristics of vicarious trauma and secondary trauma (Stamm, 2010).

Figure 2.1
The second is burnout, which encompasses common feelings of exhaustion, anger, frustration and depression and is thought to be a response to prolonged chronic interpersonal and emotional stress as a result of one’s job (Maslach & Leiter, 2016).

While secondary traumatic stress is the component of compassion fatigue that is trauma-related stress, professional burnout is specifically related to the larger organisational context of job-related stress. There are three particular job stressor dimensions for burnout: exhaustion, professional inefficiency (or feelings of being inadequate) and cynicism (also known as depersonalisation) (Maslach & Leiter, 2016; Maslach, Schaufeli, & Leiter, 2001). The exhaustion dimension is often the first sign of burnout and is characterised by a sense of feeling overextended by the demands at work, resulting in feeling emotionally and physically depleted (Maslach & Leiter, 2017). Professional inefficiency is related to a lowered sense of self-efficacy whereby the individual feels a lack of competence, achievement and productivity in work (Maslach & Leiter, 2017). The dimension of inefficiency can be exasperated by a lack of social support and opportunities for professional growth, as well as a lack of resources at work. Finally, cynicism is comprised of the interpersonal aspect of burnout where an individual has negative or callous feelings towards their job and detaches themselves from their work. Cynicism is
often protective against the first component of burnout, exhaustion, but in time people tend to shift from working hard and putting their best foot forward, to getting by with completing only the bare minimum (Maslach & Leiter, 2017).

The process by which someone reaches burnout is identified as a progressive state by which factors accumulate over time and include factors from the organisation, the individual, and the populations they work with (Maslach et al., 2001). Specifically, the largest risk factor for the development of burnout is having an occupation in human service work (Newell & MacNeil, 2010). Together, secondary traumatic stress and burnout compose the two dynamics, one being trauma-related stress and the other being job-stress related, of compassion fatigue.

Contrastingly, caring for others may also have a positive impact. Specifically, compassion satisfaction, describes the phenomenon whereby an individual gains strength and enjoys their work more fully due to the rewarding and gratifying aspects of working with a traumatised population (Stamm, 2009). Stamm posits that compassion satisfaction can enhance quality of life, job performance and enhance job commitment (2002). Throughout the literature it is becoming more important and prevalent to understand and identify not only the negative aspects of trauma exposure and work, but to also better understand the positive components that lead to resiliency and transformation (Pearlman & Caringi, 2009; Stamm, 2009; Stamm, Figley, & Figley, 2010).

Individually, secondary traumatic stress, burnout, compassion fatigue and compassion satisfaction all contribute to the understanding of both the positive and negative impacts of caring for others. Compassion fatigue can have several negative impacts on an individual’s well-being, as well as their ability to perform within their work role. Compassion fatigue, as well as compassion satisfaction, have been understudied
within policing, calling researchers to explore the “cost of caring for those who suffer” relevant to police work has to (Andersen & Papazoglou, 2015; Figley, 1995).

### 2.6.2.2 Job Demand-Control-Support Model: an occupational stress theory

The World Health Organisation has identified poor psychological well-being as one of the most common causes of increased absenteeism and reduced job involvement (Harnois & Gabriel, 2000). The interplay between job characteristics and psychological well-being is of increased interest to researchers and much of the research investigating occupational stressors and risk to poor mental health includes the concepts of demand, control and support. Job demand relates primarily to the workload that an individual faces and has been primarily operationalised as role-conflict and time pressure on the job. Job control, on the other hand, refers to the ability for someone to have control over their work activities, and is also known as decision latitude (Karasek 1985). The job support aspect of the model can be seen in support from both supervisors and co-workers.

The Job Demand-Control model proposed by Karasek (1979), and later the Demand-Control-Support model (Johnson & Hall, 1988) are two models used to explain work-related stress. The Demand-Control-Support (DCS) model has been used for well over thirty years and posits that high job demand, low job control and low job social support results in an increased risk of poor psychological well-being. The DCS model has been supported by evidence linking high levels of work demands, across a variety of occupations, to common mental health problems (Stansfeld et al., 2011). Likewise, empirical data support the idea that lack of social support (iso-strain) leads to a variety of mental health consequences (De Lange, Taris, Kompier, Houtman, & Bongers, 2004). Studies have also provided evidence of the validity of the central psychological aspects of the DCS model such as anxiety and depression as outcomes (Van Der Doef & Maes, 1999). Studies of demand, control and support have however, been criticised for their use
of self-reporting (Sanne, Torp, Mykletun, & Dahl, 2005).

The positive impact of support on mental well-being at work using the DCS model has also been supported by several studies and a systematic review (Hausser, Mojzisch, Niesel, & Schulz-Hardt, 2010). Specifically, it is suggested that by managing demands, increasing the scope for which job decisions can be made, and by providing supportive work environments, employees can not only increase their wellbeing, but also increase their work efficiency (Leitão et al., 2018). Therefore, the DCS model presents a unique and important theory to increase our understanding of the risks that occupations with high demand and low control impose on psychological outcomes, as well and the protective aspects of strong support.

2.7 Variations in trauma exposure and stress responses

In line with the cognitive model of stress and trauma, individuals will react differently to stressful situations as a result of their environment, sensitivity, and vulnerability (Lazarus & Folkman, 1984). An individual’s response to trauma is thus influenced by their perceptions and expectations at the time of the trauma (Foa & Kozak, 1986). The trauma response is mediated through determining the valence of the exposure and the amount of control the individual perceives they have in the situation (Carlson & Dalenberg, 2000). While there is evidence of the biological influences on stress response, much of the current literature highlights the important influence that social context has on psychological outcomes of stress and trauma (Carlson & Dalenberg, 2000; Cheng, Cheung, Chio, & Chan, 2013; Eshun & Gurung, 2009; Schnyder et al., 2016).

2.7.1 Variations in stress responses globally

Increasing our understanding of mental health problems remains a high priority matter of interest to physicians, researchers, academics, and policy makers alike (Wykes et al.,
More recently, the focus has been placed on developing a more comprehensive understanding of trauma and stress-related disorders, ranging from aetiology and symptomology to the prevention and treatment of such disorders (Medical Research Council, 2017; World Health Organisation, 2007). Changes in our understanding of stress and trauma, their related mental health outcomes, and approaches to the prevention and treatment of adverse psychological reactions continue to be explored and established. Previous approaches to understanding trauma and stress have predominantly focused on research conducted across Western, educated, and middle/high income contexts, however this is being refined through a better understanding of the various socio-cultural contexts across the globe (Hendriks et al., 2018; Wilson, Tang, Wilson, & Tang, 2007).

Trauma is a global issue and throughout the world, perceptions on traumatic exposure vary greatly (Schnyder, 2013). This has an impact on what is considered traumatic, and thus rates of traumatic exposure differ greatly alongside the prevalence of adverse psychological reactions to such experiences. Moreover, what one individual considers a traumatic experience, another may not, and the perception of the severity of the exposure, and the meaning given to the experience, has a direct influence on one’s psychological outcome (Cromer & Smyth, 2009). Likewise, there are several contextual factors that affect the way in which exposure to trauma impacts upon mental health, namely that of social context and culture (Bracken, 2002; Ungar, 2013). While cross-cultural validity has been identified for many psychological trauma constructs, there is variation of trauma-related disorders across different cultures (Hinton & Lewis-Fernández, 2011).

Variances in lifetime prevalence of trauma exposure across studies occurs as a result of both cultural context and the definition of trauma used. The World Mental Health Survey Consortium, a large scale, epidemiological study to identify prevalence
rates across twenty four countries (Benjet et al., 2016), including populations from low, middle and high-income countries, with nearly 70,000 participants found that more than 70% had reported experiencing a traumatic event in their lifetime. Of those, nearly a third (30.5%) reported experiencing more than three traumatic events (Benjet et al., 2016).

Although experiencing trauma is a relatively common experience globally, the types of trauma that individuals experience differed based on the country and socio-cultural context. The most common type of traumatic exposure was accidents and injuries (36.3%), followed by the unexpected death of a loved one (31.4%). However, this is not representative of all countries. For example, in Vietnam, where there is a long history of war and poverty, as well as high rates of natural disasters and road traffic accidents, research shows that the most common traumatic exposure was natural disasters – nearly one in five of all exposures (Do et al., 2019). Additionally, the way in which individuals perceive and respond to trauma is influenced by living in collectivist or individualist cultures (Cheng et al., 2013; Eshun & Gurung, 2009; Quinney, 2009). In collectivist cultures where the emphasis is put on the community and not the individual, rates of PTSD appear to be lower, even in countries of high traumatic exposure (Atwoli et al., 2013). Therefore, and while traumatic exposure appears to be common globally, responses to these events appear to be further influenced by the socio-cultural context within which the traumatic event occurs.

Increasing cultural competencies around trauma is crucial to understanding how to approach and treat adverse reactions to trauma (Schnyder et al., 2016). It has been outlined (Castillo, 1996) that culture can influence mental health in a variety of ways including: 1) how symptoms expressed are interpreted and hence diagnosed; 2) the individuals own personal experience of the illness and associated symptoms; 3) how the
individual expresses his or her experience or symptoms within the context of their cultural norms; and 4) how mental illness is treated and ultimately, the outcome.

Hwang and colleagues (2008) developed the Cultural Influence on Mental Health (CIMH) model, seen below in figure 2.2, which captures how culture impacts on mental health across six domains, including (a) prevalence of mental health issues, (b) aetiology of mental health disease, (c) phenomenology of distress, (d) assessment and diagnostic issues, (e) help-seeking pathways and coping styles, (f) interventions and treatment issues. This model was developed to provide a more sophisticated and comprehensive understanding of culture’s impact on mental health and provides a framework to further understand the dynamic influence and interrelationship that culture has on mental health. Acknowledging and understanding that these influences are highly complex is integral in conducting trauma research.

Figure 2.2

*Culture Influence on Mental Health (CIMH) Model*
Moreover, culture impacts on the aetiology of trauma through the development of resilience. A recent systematic review conducted by Raghavan and Sandanapitchai (2020) found that cultural values, social support, and community all facilitate resilience in trauma-exposed populations. However, as stated in the review by Raghavan, there were very few articles which included the cultural context of trauma resilience, highlighting the lack of psychological trauma studies available which include cultural context. Many of the participants in this study discussed the way in which their cultural practices and views provided meaning and offered strong social support. This finding underscores the application of social and social cognitive theories in understanding the implications of culture in trauma research (Alexander, 2012; Rao, Asha, Jagannatha Rao, & Vasudevaraju, 2009; Bandura, 1986). The authors conclude the review with the recommendation that future trauma research should include a more nuanced and specific assessment of culture.

Research over the last several years has generated much discussion and awareness around various trauma and stress-related disorders and has resulted in a shift in the framework of psychological disorder guidelines, particularly for PTSD. Over the last decade research has increasingly accounted for the contextual situation and cultural norms of an individual or population, incorporating a biopsychosocial framework towards understanding psychological disorders (Maia et al., 2007; Nieuwenhuijsen, Bruinvels, & Frings-Dresen, 2010). This idiographic approach is considered important in order to understand the various reactions to stress and trauma for individuals across differing situations (Weiss et al., 2010).

2.8 Stress responses within a policing context

While stress and trauma exposure are common amongst the general population, there are unique types of stress and trauma specific to police work (Bunting, Murphy, O'Neill, &
Ferry, 2012; Papazoglou, 2013). There is consensus across the literature that due to the stressful nature of police work there are higher rates of poor mental health in this occupation when compared to the general population (Maia et al., 2007; Stansfeld, Head, Rasul, Singleton, & Lee, 2003). Additionally, police work presents specific individual, organisational and operational stressors which contribute to a unique interplay of domains of risk.

2.8.1 Police Officers & Trauma Exposure

Police work is known as a high-risk and high-stress occupation (Andersen & Papazoglou, 2015; Anshel, 2000; Colwell et al., 2011; Garbarino et al., 2013). While occupational stressors that are present in many jobs and organisations can lead to poor mental health outcomes (Marchand, Haines, & Dextras-Gauthier, 2013), the impact of traumatic exposure further compounds these negative impacts and confers additional risk (Papazoglou, 2013). In addition to the more general stressors of heavy workload, poor relationships with managers and internal politics seen among a variety of occupations (Kohan & Mazmanian, 2016; Toch, 2002), police officers are often faced with a multitude of traumatic situations. These potentially traumatic experiences include experiencing, witnessing or having to perpetrate violence, including fatal motor vehicle accidents, child abuse cases, homicide scenes or being the target of an assault (Colwell et al., 2011; McCaslin et al., 2006; Weiss et al., 2010). In addition, officers are not only called to scenes where a trauma has already occurred, but often arrive to an active crime scene or critical incident, both of which are particularly threatening to an officer. McCaslin et al. (2006) found that the higher the personal threat of a critical incident to an officer, the higher the risk of developing ongoing distress. Officers also face serious mental health consequences as a result of having to perpetrate violent acts required in the line of duty, whereby seriously injuring or killing someone while on duty is associated
with symptoms of PTSD and depression in police officers (Komarovskaya et al., 2011). So whereas globally, individuals will average just over three traumatic experiences in a lifetime (Benjet et al., 2016), some officers encounter upwards of 900 traumatic incidents throughout their career (Rudofossi, 2009). Police therefore experience a higher cumulative frequency of critical incidents resulting in a higher risk for developing PTSD (Buchanan, Stephens, & Long, 2001).

In addition to specific incidences, discrete units and specialist officer roles can be subjected to traumatic material and critical incidents on a daily, or near daily, basis which may add to the complexities of trauma responses. These disturbing or distressing traumatic incidents often involve the direct threat of bodily harm, or from witnessing or hearing about the harm of another individual; something that many officers regularly encounter. Given the unique nature of police work, Mitchell and Resnick (1981) developed a definition of traumatic incidents specifically for emergency service personnel to include the impact that the exposure has not only on their own well-being but also on their work life. According to this definition a traumatic event is “any situation faced by emergency personnel that causes them to experience strong emotional reactions which have a potential to interfere with their ability to function either at the scene or later” (Mitchell & Resnick, 1981, p. 36). The impacts of high rates of traumatic exposure can be seen in the high rates of poor mental health within police work.

2.8.2 Poor mental health in policing

It is well established that emergency personnel will experience high rates of trauma exposure, and thus, higher rates of trauma-related symptoms due to the nature of their work (Maia et al., 2007; Marmar et al., 1999; McCaslin et al., 2006). Among these, police officers appear to have an increased incidence of work-related mental health problems (Stansfeld et al., 2003). In the United Kingdom, as many as 90% of police personnel have
experienced stress and poor mental health at work and more than three in five officers report experiencing a mental health problem (Mind, 2015). While police endure a high rate of exposure to trauma and stress, they also encounter secondary and vicarious trauma which can have a significant impact on their psychological well-being. The result of caring for others in need can lead to compassion fatigue, putting officers at an even higher risk of the development of more serious mental health conditions such as PTSD or depression (Andersen & Papazoglou, 2015). As previously discussed in this chapter, compassion fatigue can be outlined as the overall experience of psychological and emotional fatigue of care providers who are working with individuals who are experiencing suffering (Figley, 1995, 1999a). Violanti and Gehrke (2004) found that the type of trauma, particularly those occurring to co-workers such as homicide of another officer and dealing with abused children, may lead to compassion fatigue among police officers. Additionally, they found that increased frequency of trauma exposure led to an increased risk of PTSD symptoms, and thus compassion fatigue.

Cognitive theory acts as a strong theoretical foundation for understanding PTSD and stress-related disorders in police officers, and the impact it may have on their work. Although police officers often attempt to mask or control the effects of trauma and stress through avoidance, officers may develop aggressive and over-controlling tendencies. These maladaptive behavioural responses, among others, have been outlined in Ehlers and Clark’s cognitive model (2000). These behavioural outputs have severe consequences to the officer’s performance on the job and can even lead to excessive use of force in the field (Murphy et al, 2007).

Overall, officers are at an elevated risk of mental health disorders such as anxiety, depression, PTSD, complex PTSD, and burnout. There are various domains of stress and trauma that a police officer will encounter – both occupationally and personally – all of
which should be accounted for when observing the mental health outcomes of police. Several key factors can be investigated to better understand the negative psychological outcomes of police work, which will be discussed in the subsequent sections of this chapter.

2.8.3 Sources of Stress for Police

Compared to the general working population police officers are twice as likely to describe problems with work to be the source of their mental health problems (Mind, 2015). Stress occurs across several dimensions of an officer’s personal and work life; these dimensions of stress not only intersect but can compound and exacerbate overall negative mental health outcomes. The various domains of stress include organisational, operational and personal stressors. Organisational stressors are strains related to working for the police service and includes factors such as long hours and heavy workload. Operational stressors are specific to the unit or specialist role that the officer is in and include a range of stressors from anticipatory stress to isolation on the job (Anderson, Litzenberger, & Plecas, 2002; Regehr, LeBlanc, Barath, Balch, & Birze, 2013). The personal stressors an officer faces, such as a history of childhood trauma or financial difficulties, also play a role in mental health outcomes (Asmundson & Stapleton, 2008; Chopko & Schwartz, 2013; Follette et al., 1994; Habersaat, Geiger, Abdellaoui, & Wolf, 2015). While some research has identified the need to address the various domains of stress encountered by police and not solely the operational risks (Habersaat et al., 2015), this research lacks a strong theoretical underpinning, which the current study provides.

The Police and Public-Safety Complex PTSD (PPS-CPTSD) theory developed by Rudofossi proposed that in order to understand the complex nature of police traumas and outcomes, you must take into account the individual nature of officers, particularly their
personality (2009). The PPS-CPTSD theory was developed to provide a frame of reference for clinicians and researchers. There are three core domains of PPS-CPTSD: individuality, validation, and resilience. This theory acknowledges that there is no ‘one size fits all’ approach to police responses and treatments to trauma and that the personal characteristics of each officer must be considered. The second domain of PPS-CPTSD, validation, implies that an officer must have their trauma or loss acknowledged otherwise they may feel disenfranchised and further isolated from society. Finally, one must remember that in the face of adversity, trauma and extreme stress, police officers are highly resilient and can experience posttraumatic growth. The theory of PPS-CPTSD is thus important when observing overall risk and protective factors of police work.

2.8.3.1 Organisational Stress and Risk

Police in the United Kingdom report specific organisational stressors such as organisational upheaval, excessive workload, and pressure from management (Mind, 2015). Many of the stressors presented above appear to be, at least partially, a consequence of budget cuts and reduced force strength (the number of officers employed by a police service). From 2010 to 2019 the number of frontline police personnel has decreased by more than 20,000 officers in England and Wales, representing a 14% reduction and increasing the strain and pressure on the remaining officers (Home Office, 2019). Similarly, Northern Ireland continues to operate its police service at around an 11% deficit to the guideline recommendations (PSNI, 2013).

Consistent with the Demand-Control-Support (DCS) Model, policing and the highly structured way in which officers are required to conduct their job, implies an intrinsically a low-level of job control within the organisation. Additionally, police forces place significant demands on their officers such as tight time restriction to complete reports, long working hours and overtime, and working multiple ‘live’ cases at once.
Therefore, the DCS serves as a useful tool for how job support can moderate poor mental health in an organisation where there is notoriously low job control and high demand.

As an organisation, the police service has developed its own unique culture through a process of solidarity and socialization (Sklansky, 2007; Workman-Stark, 2017). In addition, the hierarchical and bravado nature common within police services acts as a source of various organisational stressors, as many officers feel that they are unable to discuss the negative psychological impacts of their work. Police often therefore operate under a unique social context that includes a strong sense of bravado and particularly masculine norms. Aligning with social theories of stress and trauma, a person not only reacts to a stressful or traumatic event based on their own self-agency, but on the learned behaviours and experiences that the individual has had socially and culturally. For example, negative workplace behaviour, such as bullying, has emerged as an important psychosocial hazard with the potential to negatively impact on the mental health of officers (Tuckey, Dollard, Saebel, & Berry, 2010). In addition, the concept of ‘just get on with it’ has been reiterated time and time again to officers and highlights the contextual taboo against openly discussing the impact the job may have on officers’ mental well-being (BBC, 2016a; Evans, Pistrang, & Billings, 2013; Workman-Stark, 2017).

The theory of organisational culture can be applied to the unique context of the PSNI. All organisations have some form of culture, although some more deeply ingrained than others, whereby a strong culture is identified when most members of an organisation accept a particular set of beliefs, practices, and values (Ónday, 2016). Schein (2016) proposes that organisational culture emphasises conceptual sharing whereby by there is a consensus of behaviours, feelings and perceptions which is shared by current members of the organisation and is also learned by new members. Although the culture of an
organisation can be crucial and provide many benefits, organisational culture may also present potential dysfunctional aspects, which may be the case of organisational bravado and stigma of poor mental health within the PSNI.

The organisational culture of policing thus lends itself to perpetuating the stigma surrounding mental health. Compared to the general working population (45%), three-in-four police personnel stated that their organisation did not encourage them to talk about mental health (Mind, 2015). Discouragement from discussing mental health has become a significant area of organisational stress for officers, many of whom face psychological difficulties. A survey conducted by Mind revealed that although police officers experience increased rates of mental health problems in comparison to the general workforce, and even compared to other emergency service personnel (e.g. fire service and ambulance service), they are actually less likely to take time off work as a result of their poor mental health (2015). This may be related to the stigma associated with poor mental health, and especially with taking mental health related sick leave. Officers often ‘suffer in silence’ due to a fear that if they are seen to be struggling with their mental health that they may have their firearms removed from them, be demoted, or not be put forward for future promotions (Caruso, 2013). In line with the PPS-CPTSD model, this culture of not acknowledging the traumas and stressors involved in police work may lead to significant challenges in overcoming adverse reactions due to a lack of validation of police officers’ experiences (Rudofossi, 2009).

Previous research has focused primarily on the operational stressors associated with policing, but recent advances in the field show that organisational stress may be just as, if not more, impactful on mental health than operational stress (Moon & Jonson, 2012). An example can be seen in the work of Toch (2002) who found that top-down management practices and departmental politics were more stressful than the many
operational stressors encountered routinely by police. Likewise, officers suffering from burnout tended to point towards the organisational stressors, such as work demands and resources, as the source of their psychological problems (Kohan & Mazmanian, 2016; Martinussen et al., 2007). However, there is conflicting evidence around the main source of police stress related to poor mental health outcomes. Therefore, it is crucial to understand how context-specific organisational and operational stressors, as well as personal stressors, can impact officer well-being, as each police department represents its own unique context and circumstances.

2.8.3.2 Operational Stress and Risk

Operational stressors are the multiple stressors and potentially traumatic events encountered while in the line of duty. The constant presence and accumulation of operational stressors in police work often make it very challenging to maintain psychological well-being. This combination of chronic operational stress and trauma may have a cumulative impact on the officer’s psychological well-being, leading to higher risk of developing stress or trauma-related psychological problems (Papazoglou, 2013).

Certain specialist roles may be at an increased risk of developing adverse psychological reactions due to the nature of their work. Operational stressors are often specific to distinct specialist roles and units within the police service, such as Crime Scene Investigation or Child Internet Protection Team, who, because they are exposed to trauma on a regular basis, may be at an increased risk of psychological illness. For example, Crime Scene Investigation officers, who primarily deal with homicide cases, encounter severe traumatic events resulting in a significantly increased risk for developing symptoms of PTSD (Violanti & Gehrke, 2004). Similarly, child abuse investigation officers often encounter and assist physically and sexually abused children. These specialist officers are at risk of secondary traumatic stress as a result of viewing
images and materials, and can experience symptoms similar to PTSD (Maceachern et al., 2011). Secondary traumatic stress is also common in many police investigation roles, and is thought to result from “helping or wanting to help a traumatised or suffering person” (Figley, 1999a). For example, police communicators (also known as emergency dispatchers) often feel psychological stress as a result of being isolated and powerless to help in the emergency for which they are dispatching officers (Regehr et al., 2013). Regehr and colleagues (2013) found that 31% of police communicators experienced symptoms of PTSD; four times the rate reported by other police officers. The authors attribute this to working in an environment where they have a lack of control and are often unaware of the outcomes of the calls (Regeher et al, 2013).

A study by Garbarino and colleagues (2013) on mental health of police special forces units suggests that work-related stress specific to their operational role may facilitate the development of psychological problems. Regehr (2013) and Garbarino (2013) however, are two of only very few studies that focus on an individual unit or specialist role within the police service. Most research focuses on the general police population, missing crucial components of contextual risk factors for discrete-trauma exposed officers. Operational stressors vary greatly from role to role within the police and roles must therefore be considered when observing the mental health of any police force (Habersaat et al., 2015).

Officers in these high-exposure, specialist roles not only face the organisational stressors working for the police, but also have to cope with the operational stressors and constant exposure to potentially traumatic situations. Similarly, officers in specialist roles and units also experience discrete stressors associated with their area of police work, with some of these specialist officers at an elevated risk of adverse mental health outcomes, including PTSD (Violanti & Gehrke, 2004). This combination of chronic stress and
trauma may have a cumulative impact on the officer’s psychological well-being, leading to higher risk of developing stress or trauma-related psychological problems (Papazoglou, 2013).

Additionally, an entire organisation may become traumatised and is supported with social theories of trauma (Bloom, 2010). The idea of the traumatised organisation was developed by Bentovim (1995) and he coined the term ‘Trauma-Organised Systems’ to describe this concept. Recent progress to the traumatised organisation has been described as “when a system becomes fundamentally and unconsciously organised around the impact of chronic and toxic stress, even when this undermines the essential mission of the system” (Bloom, 2012). This is particularly relevant when studying a police force that has a militaristic background, as trauma has been embedded into the culture of the organisation, and serve to perpetuate the negative mental health outcomes officers face as a result of working for the police organisation (Bloom, 2010).

2.8.3.3 Personal Stress and Risk

In addition to occupational stressors, namely organisational and operational, personal stressors also play a role in police officers’ negative mental health outcomes. Personal stress is a crucial facet in fully understanding and examining police mental health. Police are, of course, subject to the same personal stressors that put individuals within the general population at a higher risk of stress and trauma-related mental health problems. The personal stressors and life traumas an officer faces, such as a history of childhood trauma, going through a divorce, financial problems or the bereavement of a close family, can therefore also have a significant impact on their psychological well-being (Asmundson & Stapleton, 2008; Chopko & Schwartz, 2013; Follette et al., 1994; Habersaat et al., 2015).
Organisational, operational and personal stressors can overlap and accumulate, leading to an increased risk of poor mental health. For example, in a study of Norwegian officers by Martinussen and colleagues (2007) work-family pressure was directly linked to burnout in work. This example shows how work and personal stressors intersect and can amalgamate to lead to negative mental health outcomes. The way in which these individual, or personal, stressors interact, compound and impact on police work however, has been understudied. Therefore, and in order to thoroughly understand the multifactorial aetiology of police officer mental health, it is critical to account for both the organisation as a whole and the operational work being done by an officer in the field, while also taking into account the impact that personal stressors have.

2.8.4 Resilience in the police

Traumatic experiences can reach beyond their related sequela and can also have unique positive impacts on the individual. Experiencing a trauma can lead to psychological strengths, positive coping mechanisms, and resilience (Burstow, 2016; Goodman, 2013; Lenette, Brough, & Cox, 2012). Many police officers appear to be highly resilient and resilience theory provides a framework for understanding trauma from a ‘strengths-based’ perspective and may allow better understanding of how to manage trauma in police officers and create effective prevention measures (Zimmerman, 2013). In this way, resilience theory provides the conceptual scaffolding to understand why some police officers cope well in their roles, while others develop adverse reactions. Resilience theory also complements the PPS-CPTSD conceptual model outlined earlier, wherein understanding responses and treatment to trauma exposure for police officers one must also consider that officers are highly resilient (Rudofossi, 2007).

The use of resilience theory is a particularly interesting lens through which to view police mental health given recent reports from the Police Federation indicating that
resilience is currently at an all-time low (Elliott-Davies & Houdmont, 2017). However, many police forces are attempting to implement and deliver resilience trainings to their teams in the hopes of reducing negative stress responses (Andersen, Papazoglou, Koskelainen, et al., 2015). Although resilience theory has its place in understanding the positive outcomes that encountering adverse experiences can have for some individuals, there is a lack of consensus on what the conceptualisation of resilience theory is; evident through inconsistent definitions (van Breda, 2018).

2.9 Stress responses within conflict-affected states

Burri and Maercker (2014) identified that interpersonal or intentional traumas, such as those perpetrated in war and conflict, have a stronger impact on individuals than do traumas of an accidental nature. Studies suggest that these experiences of war traumas present long-term impacts both psychologically and emotionally and can even be passed on to future generations (Maercker & Herrle, 2003; Spiro & Settersten, 2012). A review of epidemiological studies on PTSD found that the highest burden of trauma exposures, as well as the highest prevalence rates of PTSD, are found in post-conflict settings (Atwoli et al., 2013). Likewise, Turkington and colleagues (2016) found that individuals who were exposed to political violence had significantly worse psychological outcomes when compared to those who were not directly exposed, with violence potentially impacting on the onset and course of psychosis.

As previously discussed, one of the current theoretical downfalls in trauma research is that there is a lack of focus on socio-cultural dimensions, which can have large influence on the way traumas impact individuals and communities (Maercker & Herrle, 2003; Maercker & Horn, 2013; Raghavan & Sandanapitchai, 2020; Castillo, 1996; Schnyder et al., 2016). Research within conflict-affected populations suggests that the environment in which one lives significantly impacts outcomes of psychotic illness.
For this reason, studies that solely investigate an individuals’ direct accounts of violence are likely to underestimate the burden of trauma and trauma-related disorders in countries with a history of extreme social and political conflict (Atwoli et al., 2015). Nations in conflict and post-conflict situations thus represent unique circumstances, which must be taken into account when conducting research to fully understand trauma exposure and psychological responses to said traumas.

2.9.1 The context of Northern Ireland as a Post-conflict Nation

Northern Ireland has been a country of conflict since the late 1960’s, an era colloquially known as The Troubles. The Troubles was an ethno-national armed conflict marked by political violence between Unionist (predominantly Protestant, British loyalists) and Nationalists (predominantly Catholic, Irish republicans) that persisted in Northern Ireland for more than 30 years. In total more than 3,500 civilians, paramilitaries, soldier and police were killed during the Troubles and as many as 50,000 were injured as a result of the sectarian violence (CAIN). The Troubles were a period marked with insurgency and inter-communal violence, including murders, shootings and bombings – with the country teetering on the verge of civil war (Dorney, 2015). However, in 1994 a ceasefire was established, leading to political discussions of moving past the conflict. In 1998 the peace treaty, known as the Good Friday Agreement, was signed. Politicians on both sides of the conflict participated in discussions over ending the sectarian violence in Northern Ireland, turning towards a self-governing state with equal representation for both Unionist and Nationalist parties. This signified a very important step towards moving past the Troubles and securing the Peace Process. It is common for violence and unrest to carry-over into post-conflict stages (Ben-Porat, 2015; Höglund, 2005) and thus, sectarian violence remains an ongoing problem in Northern Ireland to this day, with dissident groups continuing to present armed campaigns using explosives and firearms.
Paramilitary and dissident groups remain active and have a significant impact on residents, inflicting various terror-related traumatic events (Napier, Gallagher, & Wilson, 2017). Current violence continues to inflict burden on the region, impacting on the psychological well-being of the population.

Although there has been a formal end to the conflict in Northern Ireland, a significant proportion of people continue to be impacted by the conflict (2013). Some researchers have stated that the impacts of the Troubles are under-researched (Turkington et al., 2016), however the studies which have been conducted identify various substantial adverse effects of the conflict on mental health. Thirty-seven percent of residents have stated that the Troubles have substantially impacted their lives and 45.5% have stated that the Troubles have substantially impacted on their residential area (Turkington et al., 2016). These impacts have a direct influence on the overall well-being of the nation’s residents. For example, those in Northern Ireland who had experienced conflict-related trauma had a significantly higher lifetime prevalence of any mental health disorder (46% for men and 55.9% for women, respectively) compared to those who had not (27.2% for men and 31.1% for women, respectively) (Bunting, Ferry, Murphy, O'Neill, & Bolton, 2013). More specifically, for those who experienced a conflict-related traumatic event had a much higher risk of PTSD with a lifetime prevalence of 29%. Shalnev and colleagues (2006) found that civilians who are indirectly or directly exposed to terror-related traumatic events have elevated rates of PTSD.

The long-lasting effects of the civil trauma that many individuals were exposed to and continue to face in the post-conflict setting are evident in the mental health of the Northern Irish population. In this post-conflict setting there remains a significant impact on the psychological well-being of residents in Northern Ireland, where nearly a third (30%) of residents state that they are concerned about their own mental health (Corrigan
& Scarlett, 2017). When compared to England, Northern Ireland has reported a 25% higher rate of poor mental health in its population (Department of Health, 2014).

The majority (60.6%) of Northern Ireland residents have experienced a traumatic event in their lifetime, while 39% specifically experienced a conflict-related traumatic event (Benjet et al., 2016; Bunting, Ferry, et al., 2013). The most common traumas experienced include the unexpected death of a loved one, witnessing death or a dead body, seeing someone seriously hurt, and being a civilian in a region of terror (2013). It was found that Northern Ireland has a lifetime prevalence of PTSD of 8.8% and a 12-month prevalence of 5.1% - the nation with the highest rates of PTSD across all of the World Mental Health Survey studies (Bunting et al., 2013). Other studies have found the lifetime prevalence rate of PTSD to be much higher than previous epidemiological studies. Ferry and colleagues (2013) identified a lifetime prevalence of PTSD of 17.6% in Northern Ireland. The elevated rates of poor mental health may be explained by the type of terror and conflict-related traumas faced by individuals in Northern Ireland (Department of Health, 2014), as previous studies have suggested that the high rates of poor mental health in Northern Ireland are due to the conflict (Bunting et al., 2012). These findings show that conflict-related traumas may be much more highly associated with adverse mental health outcomes than non-conflict related traumas; something that must be considered when observing nations of conflict. Ferry and colleagues (2013) also point out that although a moderate number of individuals in Northern Ireland experience a traumatic event in their life, it would appear that they are more likely than other populations to develop PTSD.

2.10 The Context of Policing in Northern Ireland

The Police Service of Northern Ireland (PSNI) has the responsibility of combating the ongoing threat from dissident groups, while also protecting communities, enforcing the
law and maintaining civil order. This unique context of policing in Northern Ireland has
discrete impacts for the PSNI. The problems associated with policing are often
exacerbated in conflict and post-conflict settings, where threat against police officers is
high, the government is often unstable and volatile, and there is a general lack of
resources for police forces (UNODC, 2011). The risks associated with policing in conflict
and post-conflict settings are also heightened, as police forces often become militarised in
order to address the level of threat and disorder among the community (Engel & Burruss,
2004; Mani, Devendran, & Lundrigan, 2018; Mani, 2003). These additional occupational
stressors further increased risk for the development of adverse psychological reactions
among police work within a conflict state (Violanti, 2011).

Established in 2001, after many years of being the Royal Ulster Constabulary
(RUC), both before and throughout the Troubles, the Police Service of Northern Ireland
(PSNI) currently serves as the police force in Ulster. The history of the RUC, which
functioned alongside the state as a counter-insurgency police force throughout the
Troubles, results in many nationalists viewing the police as ‘state-oppressors’ rather than
‘custodians of nationhood’ (Ellison & O’Reilly, 2008; Weitzer, 1995). Consequently,
many Nationalists viewed the RUC as a perpetrator of violence. Sinn Fein, the
predominant Nationalist party on the island of Ireland, stated that the RUC were "a
partisan, Unionist militia which engaged in harassment, torture, assassination, shoot-to-
kill and collusion with death squads" (Sinn Fein, 2007). Sinn Fein represent one of the
largest political parties in Northern Ireland and believe in an all-Ireland, with an agenda
for resuming Northern Ireland as being a part of the Republic of Ireland and not the
United Kingdom. The Democratic Unionist Party are the other largest political party in
Northern Ireland and represent the Unionist side, whereby they believe that Northern
Ireland should remain a part of the United Kingdom. In contrast to Nationalists, many
Unionists viewed the RUC officers as upstanding citizens who took the step of protecting Northern Ireland from Nationalist ‘terrorism’. This legacy of this rhetoric is maintained to this day for many members on both sides of the political divide.

Since the establishment of the PSNI, the police have continuously undergone reform, adjusting from a militarised police force to one based on civilian and community policing. Despite this transition, officers in Northern Ireland continue to be impacted by paramilitary threats. For example, bombings across the nation nearly doubled from 2014/15 to 2015/16, and the PSNI continue to face a large work demand, such as historical enquiries, from legacy related issues (issues related to the Troubles) (Police Service of Northern Ireland, 2016). The stress of working within the police force in a post-conflict state are further reflected in the numbers of PSNI officers taking stress-related sick leave, as well as increases in mental health problems and suicide amongst the PSNI (Head of Freedom of Information, 2015; Lindsay, 2016).

The occupational risk of working for the PSNI to one’s mental health are likely due to several underlying factors. Several key issues arise when observing the current state of PSNI officer mental health: the organisational culture of the PSNI, a lack of resources, high-risk operational roles, and the current level of threat to officers. Specifically, it has been stated from the Police Federation of Northern Ireland that the culture of the PSNI as an organisation continues to contribute to the current state of police officer mental health in Northern Ireland being at an all-time low (Lindsay, 2016).

2.10.1 Mental Health in the PSNI

In 2015, 37,674 mental health related sick days (of a force less than 7,000 officers) were taken by officers (Lindsay, 2016). To put this issue into perspective, the total number of days lost due to psychological illness has significantly increased from 22,439 in 2013.
Although the number of reported sick days taken by PSNI officers in relation to mental health have increased by more than 60% in just three years, this figure likely underestimates the true prevalence of psychological distress among police officers, given the stigma associated with mental health problems (Lindsay, 2016; PFNI, 2016a). Additionally, these figures only include officer and do not account for the number of mental health related sick days taken by operational staff. Mark Lindsay, chairman of the Police Federation of Northern Ireland, stated:

*We have Officers who’re left suffering a range of psychological illnesses because of what they do, which leaves many officers feeling fragile and vulnerable. Many suffer from PTSD, anxiety, depression and other stress related illnesses...The problem has been getting steadily worse in the past few years* (Lindsay, 2016)

There is much debate around whether or not police are at an increased risk of suicide due to the nature of their work. The PSNI have experienced several officers claim their own lives over recent years. Since 2002 nearly 20% of the officers who have died, both on and off duty, have died as a result of suicide (McNamee, 2017). The lack of resources to counter suicides was commented on by the suicide awareness charity PIPS where they stated "we feel that more resources need to be implemented in all the front line services - PSNI, Northern Ireland Fire and Rescue Service and the Northern Ireland Ambulance Service” (McNamee, 2017). It is apparent that there are insufficient resources and funding to support PSNI officers and staff who are experiencing high levels of stress and their mental health, impacting on psychological outcomes.

2.10.2 **Occupational context of the PSNI**

As previously discussed, the constant presence and accumulation of organisational and operational stressors often make it very challenging to maintain psychological well-
being for police officers (Violanti, 2011; Warren, 2015). Within the PSNI, the psychological impacts of the organisational culture and the stigma of poor mental health, compounded with budget cuts and the severe safety threat to officers and staff, is evident across a multitude of reports and surveys. Overall, the mental health of PSNI officers and staff is of high concern to the service and the Police Federation. At the 2017 PFNI conference, Mark Lindsay, the chairman of the PFNI, stated that "fewer officers, unrealistic demands or expectations, excessive work patterns, a perception of indifference towards wellbeing and work-life balance issues, have contributed to a sorry state of affairs within the organisation" (Lindsay, 2017).

2.10.3 Culture of the PSNI

Similar to other police organisations (Sklansky, 2007; Workman-Stark, 2017), the PSNI has also developed its own unique culture. The stress an officer faces as a result of organisational culture and stigma, coupled with the nature of police work can have a significant impact on officer mental health and overall well-being (Andersen, Papazoglou, Nyman, et al., 2015; Papazoglou, 2013). The hierarchical and bravado nature of the PSNI is the result of being a male dominated organisation that was heavily militarised during the Troubles (Engel & Burruss, 2004; Mailhes, 2005). This organisational structure and the cultures associated with it can lead to poor mental health and has become a source of various organisational stressors (UNODC, 2011). One very clear indication of how this bravado is played out in the PSNI is through the stigmatization of officers who disclose they are struggling with mental health problems. The organisational culture of the PSNI has led to the development of stigma surrounding mental health illness, a phenomenon apparent in the PSNI.

This culture of bravado is perhaps best exemplified by the Chief Constable of the PSNI, George Hamilton, commenting in 2016 on an officer struggling with depression,
“Well, you're allowed to leave and seek another job - nobody is asking you to stay. Dry your eyes, do the job or move on!” (BBC, 2016a). While this statement was in receipt of much backlash, the top-down effect of viewing psychological distress as a weakness prevails throughout the rest of the organisation. The actions and values presented by leadership can ripple throughout an organisation, which is further exemplified by the theory of organisational culture described in 2.8.3.1. As Schein (2016) describes, the leadership of an organisation creates the cultural content that they end up with, and thus this concept of ‘dry your eyes’ further establishes the stigma against poor mental health for the PSNI. Consistent with the work of Toch (2002), who found that top-down management practices and departmental politics were more stressful than the many operational stressors encountered routinely by police, many officers in the PSNI also feel that there is poor inter-rank communication, problems with organisational change and upheaval, and inconsistent work patterns (PSNI, 2015).

Officers in the PSNI are not encouraged to openly discuss the psychological challenges they face due to policing. Instead, the use of black humour is very common amongst the PSNI in order to cope with psychological distress (Young, 1995). This is particularly relevant to this research, as police operate under a particular social context, including a strong sense of bravado and particular masculine norms. This social climate of stigmatisation may lead officers and staff to practice negative coping strategies, such as avoidance coping, as they may not have access to the use of social and emotion-based coping strategies. In line with social cognitive theory of trauma, a person not only reacts to a stressful or traumatic event based on their own self-agency, but on the learned behaviours and experiences that the individual has had socially and culturally. The importance of establishing a culture of good mental health practices in the police, where officers can discuss the impacts of their work on mental health is therefore essential.
2.10.4 Security threat

In addition to the typical occupational risks of police work, such as fatal motor vehicle accidents, child abuse cases, homicide scenes or being the target of an assault (Colwell et al., 2011; McCaslin et al., 2006; Weiss et al., 2010), the PSNI also face severe threat from paramilitary groups (Black, McCabe, & McConnell, 2013). As previously discussed in this chapter, working in a society divided by conflict greatly increases the dangers associated with policing, particularly when there are hostile feelings from the public towards the police serving their communities (Hills, 2009). During the height of the Troubles approximately 319 officers were killed as a direct result of the political conflict and another 11,917 were injured (Black et al., 2013).

The threat from dissident paramilitaries remains a significant cause for concern over the security of both the wider public and the PSNI. The current threat level against PSNI officers from dissident paramilitaries has been classified as ‘severe’ (NIPB, 2016). The PSNI not only have duties of protecting the public and responding to critical incidents, but they have the added stress and risk of working in a post-conflict society where lethal threat to officers, both retired and current, is encountered on a daily basis. It is in this unique context of working as an officer in Northern Ireland that must be understood when discussing the risks associated with police work. Some examples of recent attacks against police include more than 100 petrol bombs and gunfire aimed at police during a security alert in County Armagh (BBC, 2016b); smashed police vehicle windows when two officers were under attack in Carrickfergus (BBC, 2016); a pipe bomb thrown at police in an attempted murder (BBC, 2016c); and the near fatal shooting of an officer with an AK-47 assault rifle at a petrol station (BBC, 2017).

Figures from official PSNI statistics show that on average, between 2012 and 2016 there were more than 3,100 crimes of assault against officers in Northern Ireland.
A survey by the PFNI, the PSNI union for police officers who are responsible for maintaining officer welfare and well-being, found that 4 out of 5 officers have been the victim of a physical or verbal assault in the past year (2016). The Chairman of the Police Federation for Northern Ireland, Mark Lindsay, stated in his address to the annual PFNI conference that this is a "sad reflection on where we are; that in 2017, we’re still expected to police in an environment where such lethal weaponry is being used against police officers." (Lindsay, 2017).

McCaslin et al. (2006) found that the higher the personal threat of a critical incident to an officer, the higher the risk of developing ongoing distress. This poses a significant risk to PSNI officers as being targeted with lethal intent remains a commonality of PSNI work. Chronic stress, such as being the target of attacks for officers, has been linked to an increased risk of developing adverse reactions to traumatic situations (Warren, 2015). For officers, their family and friends, this disturbing reality of policing in the post-conflict state of Northern Ireland causes a great deal of stress and worry for their physical, as well as psychological, safety.

2.10.5 Resourcing and Budget Cuts

Given the conflict and current political state of the country, the police force in Northern Ireland currently has the largest number of officers per capita in the United Kingdom or Republic of Ireland (Dempsey, 2016). The force strength (the total number of active officers) of the police per population in Northern Ireland is above average when compared to the European level; while Scotland, England, and Wales are all below the European average (Allen & Dempsey, 2016). Despite a higher number of officers per capita in comparison to other nations however, both within the UK and internationally, the PSNI continues to operate below the recommended number of officers (PSNI, 2013).
Between 2010 and 2016 the population in Northern Ireland has grown by over 3%, while the number of full-time officers has decreased by 8%, resulting in approximately one officer for every 275 members of the public (Lebrecht, 2018). Civilian staff, PSNI personnel who work for the organisation but are not sworn officers, also saw a decrease of 18% during this same time period. Although the number of police on the ground has been steadily decreasing over the past 10 years, it is important to note that this reduction is not due to a lack of necessity, but instead due to budget cuts and a scarcity of resources. Over the last five years, the PSNI has seen nearly £250 million cut from its budget, with continued threat of further cuts to come over the coming years (Lindsay, 2017). This lack of funding has impacted the force across numerous areas including force strength, the retention of officers, insufficient pay, general resourcing for the service, the availability of mental health resources, and an increased workload of officers who are already struggling to complete their allotted tasks (PFNI, 2016b).

A recent report from the PFNI stated that the lack of operational capacity within the PSNI has impacted directly on the overall well-being and health of officers, leading to high levels stress and mental ill-health, increased sickness absenteeism and diminished levels of moral within the service (PFNI, 2016a). As crime-related problems continue to increase, officers are forced into a constant state of “catch up” due to heightened demand on the PSNI; officers are putting in significant levels of overtime hours and increasing the number of open cases they work on at any given time (PSNI, 2016). Statements made from officers in the PFNI’s report (2016a) illustrate how reduced resources and increased work demand for the PSNI have been challenging for officers to cope with:

*The sheer amount of overtime you have to work, usually 10/20 hours per week, which is not optional, has a long-term effect on energy levels and relationships* (Male, 35-44, Constable) (Police Federation for Northern Ireland, 2018)
There are numerous days that I am detailed to work beyond my scheduled finishing time with little to no notice whatsoever, and I am expected not only to perform these duties, but drop everything and make childcare arrangements, often at a moment’s notice, which is not only incredibly unfair and unrealistic, but adds a considerable amount of stress to what is already a difficult and stressful occupation (Male, 35-44, Constable) (Police Federation for Northern Ireland, 2016b)

At 33 I am burning out slowly. I believe that is a reflection of my workload and lack of real downtime to rest and have a family life. If I could afford to work in a lower paid job I would leave tomorrow and have less grey hair, sleepless nights and be a happier person (Female, 25-34, Constable) (Police Federation for Northern Ireland, 2016b)

Despite these known challenges, the PSNI continues to operate significantly below the recommended levels, with an estimated shortfall of 700 officers (PSNI, 2013; Patten Report, 1999). Unfortunately, PSNI force numbers are likely to continue to reduce over the coming years with further budget cuts, reduced numbers of recruits and many officers reaching eligibility for retirement. Overall, austerity measures within the PSNI have led to severe difficulty for the organisation to be able to function at its expected capacity, impacting on the ability of officers to do their jobs while maintaining psychological well-being and the overall morale and motivation of the workforce (PSNI, 2017).

2.10.6 Potential occupational protective factors for the PSNI

While police work is regarded as risky, there are various ways to protect officers and police staff from the occupational hazards they face. Mainly, the use of internal mental health services has the potential to reduce the overall risk of adverse mental health outcomes. The use of psychosocial theories, such as social capital theory, further provide an important lens when observing stress and trauma of policing and the potential ways to mitigate the impacts of such stress and trauma (Dubos, 2017). Examples of social capital in law enforcement include perceived social support, lines of communication with others, and being aware of available resources – concepts that can be provided through proper mental health support within the PSNI. Cognitive social capital has been identified as a
protective factor for the persistence of chronic PTSD (Flores, Carnero, & Bayer, 2014). Although social capital theory has been researched often, it is highly understudied in regards to psychological functioning (Southwick, Bonanno, Masten, Panter-Brick, & Yehuda, 2014).

Occupational Health and Wellness (OHW) is a department within the PSNI that provides all of the health and wellness needs of PSNI personnel. This department consists of a handful of nurses, one part-time clinical psychologist, and two support counsellors; offering 900 appointments every month. Mental Health Services is the internal team within Occupational Health and Wellness responsible for overseeing cases of poor mental health and developing protocols for preventing and reducing the impacts of the job on mental health. The Mental Health Services team is made up of counsellors, a clinical psychologist and assistant psychologists. While there is the possibility of speaking to a clinical psychologist or counsellor when adverse mental health reactions occur, the waiting list to see the psychologist had, at its worst, a two-year backlog. This level of staffing is clearly insufficient to maintain a police population of more than 6,500 active duty police officers, exasperating the current state of the problem.

In an attempt to address the challenges faced by officers and staff seeking support for mental health, the PFNI are the first police union to establish resources specifically for the mental health of its officers. Stating that the PSNI are not doing enough to curb the high rates of psychological distress among officers (Kearney, 2016), the PFNI allocated £1 million pounds to spend over three years to address the current deficit of mental health resources. To date, the PFNI funding has been used towards the Police Rehabilitation and Retraining Trust, working in parallel with OHW, to offer officers personal development and trainings, physiotherapy and psychological therapies.
There is a significant demand for the psychological services provided from OHW. A Freedom of Information Request (Head of Freedom of Information, 2016) to the PSNI revealed that approximately 1,000 officers had received counselling from OHW over the last five years. Additionally, the annual police conference in Northern Ireland consistently identifies that there is a high demand for officer welfare and that many officers are facing psychological distress (Lindsay, 2018b). A helpline for PSNI officers has recently been established, receiving 400 calls in within its first 10 months of inception (McHugh, 2018). Of those who rang the helpline, 169 police had also received counselling. The high volume of calls to the helpline may, in part, be accounted for by the anonymous form of support offered, as many officers fear going to OHW, given that all OHW appointments are documented on the officer’s file.

Many officers may also decide to seek psychological assistance externally, either due to the long waitlists of OHW or potentially due to the stigma associated with psychological distress in the PSNI. Also, that all appointment at OHW must be made through a line manager (i.e. an officer cannot self-refer) appears to act as a major deterrent for officers seeking psychological support and likely drives many officers to either not seek assistance at all or to do so externally of the PSNI. Overall, and while there exist some initiatives to assist and support officers in their mental well-being, efforts are currently insufficient to address the increasing numbers of officers and staff who report having poor overall mental health.

OHW has the potential to not only address mental health problems as they arise within the service, but to also mitigate the risk through the development of risk management strategies, trainings, and information sessions. Unfortunately, the lack of resources has stifled the ability of OHW to develop preventative solutions for mental
health and instead all psychological services remain reactionary to the development of adverse mental health outcomes of PSNI personnel. Overall, there is already a large demand for the services that OHW provide and with proper empirical evidence, reductions in mental health related stigma, and an increase in resources to the department, OHW has the potential to be a significant protector for PSNI personnel and preserve the mental health of the force.

2.11 Theoretical framework of the study

Trauma research has continued to evolve over the past several decades. Jean Martin Charcot, a French neurologist, was the first to investigate the connection between trauma and mental health in the late 19th century (Ringel & Brandell, 2011). Influenced by Charcot, Freud’s work established the foundation of psychotraumatology and the impact that trauma has on an individual through defining trauma and the criteria to be in a ‘traumatic state’ (Freud, 1916, 1920, 1926). Freud made a particular contribution through his development of ‘hypnoid hysteria,’ known today as traumatic dissociation (Ringel & Brandell, 2011). Today, there are several theories that are relevant to general psychological trauma across the domains of behavioural, cognitive, and post-cognitive psychology.

2.11.1 Cognitive Theory

Beck’s cognitive model has provided a way to understand a range of psychological disorders for more than 50 years (Beck, 1967; Beck, 1976; Clark & Beck, 2010b). As previously discussed, his theories include cognitive models across a range of psychopathology, including PTSD, anxiety and depression. Psychological disorders saw the first cognitive approaches with Beck’s clinical observations on cognitive distortions in depression (Beck, 1963). He recognised that there were three mechanisms that may be
responsible for depression: the cognitive triad, negative self-schemas, and errors in logic. The cognitive triad for depression consisted of negative view of the self, view of the world and of the future (Beck, 1967). Although we have positive and negative views in the triad, an individual with depression can only access the negative views of one’s self, the world around them, and their future. For example, an individual with depression may have feelings of “I am worthless, the world does not care, and it will never change.”

Many aspects of Beck’s early work have remained empirically valid through the years, including the triad hypothesis.

Beck further applied cognitive theory to anxiety in 1985 (Beck, Emery, & Greenberg, 1985), bringing to light the importance of a theoretical focus on emotion and cognition in understanding anxiety disorders. A differentiating factor of Beck’s depression model and his anxiety model is that individuals with depression display symptoms of low self-esteem. Beck’s found that those displaying symptoms of anxiety scored significantly higher on the Beck’s Self-Esteem Scale in comparison to those with mood disorders, as suggested by the cognitive theory of depression (Beck, Brown, Steer, Kuyken, & Grisham, 2001).

Cognitive theory posits that trauma can lead to mental health problems including posttraumatic stress disorder, acute stress disorder, depression, increased risk of suicide and other medical issues (Chopko, 2010; Lauvrud, Nonstad, & Palmstierna, 2009). Specifically, cognitive theory proposes that negative representations of the world, others and the self is the proximate cause of mental health problems. Dysregulation of autobiographical memory, overgeneralised perceptions of threat, and negative self-appraisals are postulated to lead to the ‘sense of current threat’ symptoms. This sense of threat may be a result of “excessively negative appraisals of the trauma and/or its sequelae and a disturbance of autobiographical memory characterised by poor elaboration
and contextualisation, strong associative memory and strong perceptual priming” (Ehlers & Clark, 2000).

The cognitive model of anxiety includes two phases: the perception of threat and the individual’s estimation of being able to cope with the danger (Reilly, Sokol, & Butler, 1999). An anxious person is likely to overestimate the threat and underestimate their ability to cope, leading to acute anxiety. Foa and colleagues (1996) demonstrated this judgement bias in their work with social phobias. As Generalised Anxiety Disorder can be described as an abnormal worry state, it has been identified that anxiety results from a negative appraisal of worrying that leads to both cognitive and behavioural responses that support unwanted thoughts and thus maintain dysfunctional beliefs (Wells, 1999).

Beck (1976) suggested that the memory and thoughts of traumatic events will have an impact on an individual’s emotions and behaviours. When an individual experiences a stressful experience, appraising and coping processes will influence both the long-term and immediate effects of that stressful experience. Cognitive appraisals of potentially stressful events allows an individual to appraise the significance and meaning of an event (Lazarus & Folkman, 1984). An individual will interpret an event as positive, neutral or stressful and will react accordingly. When an individual evaluates and determines a stressful appraisal, it will consist of either threat, harm, loss or challenge (Lazarus & Folkman, 1984). Cognitive models for anxiety, depression and PTSD all highlight the important role of negative appraisals (Beck, 1976).

More contemporary cognitive models of PTSD, including Ehlers and Clark’s (2000) cognitive theory has received strong support through empirical evidence, particularly in regard to discrete variables associated with persistent symptoms of PTSD such as peri-traumatic dissociation (Halligan, Michael, Clark, & Ehlers, 2003), mental
defeat (Ehlers, Maercker, & Boos, 2000) and negative interpretations of PTSD symptoms (Mayou, Bryant, & Ehlers, 2001). Clark and Beck’s work (2010b), has further built upon the work of Ehlers and Clark (2000), Foa and Rothbaum (1998), and Jones and Barlow (1990) in the building of negative appraisals of the trauma and its sequelae. Clark and Beck (2010b) amalgamate ideas from the previous models and state that there are three interrelated levels of conceptualisation. These levels include: 1) the etiological level (including the trauma and pre-existing vulnerabilities), 2) automatic processing (including a maladaptive memory and thus trauma related intrusions and arousal), and 3) elaborative processing (including negative appraisal leading to persistent negative emotion).

All of these cognitive models of PTSD, although distinct in their own rights, have an underlying commonality – PTSD symptoms result from faulty appraisals and beliefs of the threat as well as an inability to accurately store and retrieve memories of the trauma. Additionally, each of these theories also highlights that there are pre-existing differences in individuals who go on to develop PTSD.

More recent advances have been made in cognitive theory to include neurological and biological correlates, which have been advanced within the field of cognitive neuroscience (Brewin, 2014; Byrne, Becker, & Burgess, 2007). Specifically, neuroimaging has allowed our understanding of the brain processes to expand to better explain the neurological complexities involve in cognitive theory. Brewin has proposed a theoretical model for PTSD that encompass the dual representation of trauma (Brewin & Burgess, 2014; Brewin & Holmes, 2003). Dual representation theory is a cognitive theory which posits that individuals have two different types of memory – one where the memory is verbally accessible and the other which is automatically accessible given situations cues. This theory provides unique insight into PTSD and aids in the
understanding of the complex phenomenology of the disorder. Anxiety and depression have also seen similar developments, whereby various neurophysiological aspects found in Clark and Beck’s (2010) updated neurobiological cognitive model build upon Beck’s model of anxiety and depression (Clark & Beck, 2010a) and the original anxiety and depression model proposed by Beck (1976). Laboratory-based neuroimaging has revealed that the symptoms produced by anxiety and depression are a result of inhibited retrieval of reflective processes and bottom-up neural processes such as negative schemas (Clark & Beck, 2010b).

While cognitive theory offers a useful framework to understand individual responses to stress and trauma however, it could be criticised for neglecting to account for the influence of the social context, environment and culture in which an individual lives. In specific, and in addition to individual appraisal and coping strategies, social aspects also influence the way in which individuals respond to stressful or traumatic events.

2.11.2 Social Theories

Trauma and stress often go beyond the individual psyche and can be explained by theories based in socialisation and culture. Social cognitive theory was developed by building on cognitive theory, and incorporating the social consequences of trauma responses. Bandura’s social cognitive theory postulates that certain areas of learning and knowledge are acquired through observing others and can contribute to a change in an individual’s cognition (Bandura, 1986). People’s beliefs in their ability to cope with potentially traumatic situations for example, influence how they perceive these situations and how they are cognitively processed (Benight & Bandura, 2004). These beliefs are formed through our environment and what others also believe and say to us (Rao et al., 2009). Therefore, beliefs are the result of cultural and social construction. Beliefs also
shape our reality and through this our cognition around a particular situation, including how we cope with traumatic situations. Meaning making is also intrinsically interpersonal and has a direct link to individuals responses to stress and trauma (Yalch & Burkman, 2019).

Another influential concept applied in understanding the aetiology of adverse mental health outcomes is socio-interpersonal models of psychopathology (Hofmann, 2014; Maercker & Horn, 2013; Rudolph et al., 2000). While many theories around psychopathology focus on the individual, the significant impact of interpersonal and social factors cannot be neglected. Socio-interpersonal models of psychopathology propose that there are various other contextual factors which may lead to the development of psychopathology for some individuals, and protect against the development of psychopathology for others. Socio-interpersonal models of psychopathology highlight the importance of interpersonal and social factors on the development or mitigation of psychopathology. For example, Maercker and Horn (2013) present a socio-interpersonal model of PTSD explains responses to traumatic experiences as being multifaceted and including impacts at three levels: the individual, the close relationships, and the cultural and societal. The individual level integrates affective phenomena such as anger, guilt and shame, while the close relationships level emphasizes the importance of family, partners and social support, and finally the distant social level acknowledges the importance of cultural factors, societal values, and other contextual factors.

Alexander’s (2012) social theory of trauma posits that traumas are not solely individual psychological experiences, but are collective experiences. These collective experiences of trauma have the potential to affect an entire organisation (Bloom, 2010). The organisation itself can become traumatised and operate in a way that adapts to trauma and chronic stress, a concept first developed by Bentovim (1995) and termed ‘Trauma-
Organised Systems’. Traumatised organisations often display a lack of safety in the workplace, loss of emotional management, dissociation and organisational amnesia, organisational miscommunication, increased authoritarianism, increased aggression, and disempowerment or learned helplessness. Additionally, the term “traumatised societies” has gained traction over the years, whereby an entire society can become traumatised as a result of the majority of a society’s members experiencing extremely threatening or horrific events (Maercker & Hecker, 2016). The term is often used for societies who have endured historical trauma or are descendants of those who have lived through the traumas. Overall, experiences of trauma and stress, as well as the potential subsequent stress and trauma related mental health outcomes, are multifaceted and transactional between both the individual and the broader social context.

2.11.3 Police Complex Spiral Theory

Many trauma theories, such as cognitive theory of trauma, often focus on the experience of a singular trauma without acknowledging the cumulative impacts that chronic and repeated exposure can have on an individual’s psychological well-being. In contrast, Police Complex Spiral Trauma (PCST) is specific to the operational traumas experienced through a police-based cultural perspective and combines the core elements of the “Police and Public Safety Complex PTSD (PPS-CPTSD)” proposed by Rudofossi (2007) with an eco-ethological framework to better understand the nature of stress and trauma outcomes in police. It involves both direct and indirect exposure to trauma and incorporates biological, psychological and sociocultural factors (Papazoglou, 2013) and particular attention is paid to the cumulative effects of stress and traumatic exposure on the individual officer and on the organisation. The latter is particularly important given the highly stressful environment affecting both officers’ work performance and their overall health (Andersen, Wade, Possemato, & Ouimette, 2010; Arnetz, Nevedal, Lumley,
The PCST conceptualisation of the complexities of police trauma “shows in a symbolic way the cumulative, complex and multiple form of intensity, frequency and long-term exposure of police officers to potentially traumatic incidences during their career in police” (Papazoglou, 2013). Moreover, PCST is based on the suggestion from Pietrzak et al. (2012) that the conceptualisation of police trauma should be more inclusive and dimensional. For example, although police are exposed to a variety of different traumatic situations including serious injury on duty, terrorist attacks, injury or death of a fellow officer, fatal traffic accidents, suicides, and homicides (Atkinson-Tovar, 2003; Cross & Ashley, 2004; Karlsson & Christianson, 2003), officers also face anticipatory stress after receiving a call and when in route to a scene. Anticipatory stress is described by Van der Kolk, McFarlane, and Weisaeth (1996) as the first stage of trauma which is often overlooked. In addition to anticipatory stress and the general operational stress discussed in this section, PCST also takes into account the importance of individual stressors that officers face in their personal lives Papazoglou (2013).

In addition to individual stressors, cultural aspects of the police service as an organisation are also taken into consideration within PCST. Specifically, around the bravado nature of police work and the unacceptability of showing fear or weakness. This is particularly important to understanding police trauma, as difficulty in expression of emotions by police officers has been shown to predict symptomology of traumatisation (Carlier, Lamberts, Fouwels, & Gersons, 1996). The PCST thus makes a significant contribution to the foundation of this study, particularly in terms of operational trauma exposure.
2.12 Rationale & Research Questions

There is a growing body of evidence surrounding police mental health and the impact that the job characteristics may have on police officers. Officers and staff in the PSNI are exposed to high levels of stress and the impact of this stress is evident in the increased rates of mental health-related sick leave, increased long-term absence from work, and increased rates of suicide (Lindsay, 2016; Police Service of Northern Ireland, 2016b). Understanding, treating and preventing the negative impacts of psychological trauma and stress among the PSNI therefore remains a high priority issue. And while research is available on the topic of policing and mental health, there remain many gaps within the extant literature.

First, psychological research on the mental health of emergency service personnel often focuses on a single domain of stress and trauma, however it is likely that poor mental health results from a combination of risk factors, making further investigation into this supposition essential (Habersaat et al., 2015). Similarly, the interplay across individual, organisational and operational risks has not yet been explored in depth and presents a critical area of study to be undertaken. Consequently, there is still much research required to fully understand the risk factors associated with poor mental health in the police and how to best prevent the negative outcomes as a result of traumatic exposure and stress (Habersaat et al., 2015). Second, as CPTSD is a new disorder in the ICD-11, leaders in the field of trauma research have called for further empirical evidence to be established around factors that may buffer the impacts of complex traumatic stressors and aid in the development of prevention strategies (Karatzias & Levendosky, 2019). This study provides an opportunity to further understand both the risk and protective factors of developing CPTSD, as a new diagnoses, among other adverse mental health outcomes.
Third, and while some studies have analysed the organisational risk associated with trauma exposure in the police service, none have analysed the context-specific risks within the PSNI and their psychological consequences. Therefore, the current research aims to investigate stress and trauma risk of PSNI officers and staff in terms of personal, organisational and operational stressors with particular focus on the contextual and cultural aspects of the PSNI. While studies exist around stress and trauma in regard to police officers, there is little research investigating the various, unique domains of stress. By addressing these gaps, the hope is that the findings of this study can be used to inform the development of context-specific risk management strategies for the PSNI. Additionally, this research will contribute to advancing current theory surrounding the stress and trauma of police and help explain the mental health and wellbeing of police and, potentially, other emergency service personnel.

To achieve this aim and address the aforementioned gaps in the literature, the current research set forth to address the following research questions:

1) What are the most common risk factors for adverse mental health for police among the extant literature?

2) What are the context-specific stressors for the Police Service of Northern Ireland?

3) What are the rates of adverse mental health outcomes (including anxiety, depression, compassion fatigue, burnout, PTSD, and CPTSD) within the Police Service of Northern Ireland?

4) What are the rates of these adverse mental health outcomes (including anxiety, depression, compassion fatigue, burnout, PTSD, and CPTSD) for each branch in the Police Service of Northern Ireland?

5) Which risk factors are most associated to the adverse psychological outcomes for the Police Service of Northern Ireland?
Study Hypotheses

It is hypothesised that rates of mental health problems will be higher for the Police Service of Northern Ireland than for the general population, as well as in comparison to other police services. It is also hypothesised that branches who are under large organisational stress, primarily around workload and poor managerial leadership, and who are exposed to high levels of traumatic materials are likely to be most at risk. It is hypothesised that the largest risk factors may indeed be accounted for by individual and organisational factors, rather than the cumulative types of trauma an officer or staff has faced operationally.
Chapter 3: Methodology

This chapter provides an overview of the methodology used throughout this study, both as a whole and for the individual research phases. It also presents the philosophical underpinnings of the study, the implementation research approaches used, the general design of the study, and a breakdown of the methodology used in each of the four phases of research. To answer the first research question and research objective one, a systematic literature review was used. Phase one methods therefore describe the review’s operational definitions, inclusion and exclusion criteria, search strings, data management, data extraction and quality extraction. The second research question was answered by conducting a series of preliminary interviews, which also contributed to research objectives two and three. For phase two, the preliminary interviews, the methodology behind recruitment, participants and procedures, measurement tools, and data analysis will be described. Research questions three through five and research objectives two, three and four, were addressed using a PSNI-wide survey in phase three. Phase three methods therefore include a description of the participants and procedures, survey design recruitment, measurement tools and data analysis. The methodology of the fourth stage, the focus group discussion, which addressed objective four, will include participants and procedures, discussion guide, and analysis.

3.1 Philosophical Underpinnings of the Study

The current study adopts a pragmatic research paradigm. Aligned with pragmatism, the key methodological approaches used in this study were chosen based on their ability to answer the research questions in the most coherent way, so as to produce usable results for the PSNI. Specifically, both qualitative and quantitative approaches were employed to answer the four research questions. The combination of research methods was considered
necessary, as each method presents different approaches to understanding mental health outcomes. Generally, quantitative research tends to be deductive and confirmatory, while qualitative research is often descriptive and inductive. Although there are methodological differences between qualitative and quantitative approaches, the main debate between the two is philosophically centred around epistemological and ontological differences (Ochieng, 2009).

The ontological position of the quantitative paradigm has is base in positivism, with a realist orientation which posits that a singular, independent, objective reality exists (Sale, Lohfeld, & Brazil, 2002; Slevitch, 2011). In contrast, the ontological position of the qualitative paradigm stems from constructivism and interpretivism, both of which have their roots in idealism which postulates that reality is dependent on the individual and that, as a result, there are multiple realities which are psychologically and socially constructed (Sale et al., 2002; Smith, 1983). Furthermore, positivist epistemology, seen in quantitative methods, posits that the researcher and those they study are separate entities and therefore there is no dyadic influence between the two. In contrast, and aligning with qualitative methodologies, interpretive epistemology states that the researcher and researched are intrinsically interconnected and that no independent reality exists outside the individual psyche (Guba & Lincoln, 1994; Sale et al., 2002).

While positivist and interpretive epistemologies are contrasting and have been identified by some researchers as incommensurable and incompatible, others believe that these approaches can be skilfully combined to achieve a richer analysis (Ochieng, 2009). Pragmatism eschews the contentious issues of epistemology and ontology presented by the qualitative and quantitative paradigms and instead focuses on “’what works’ as the truth regarding the research questions under investigation” (Feilzer, 2010; Teddlie & Tashakkori, 2003). Pragmatism thus combines both qualitative and quantitative
approaches in a complimentary way, highlighting the importance of conducting research that is problem-focused and uses a mixed methods approach to most effectively answer research questions (O’Cathain, 2010; Sale et al., 2002). From the position of pragmatism, qualitative and quantitative methods do not represent a dichotomy, but instead are on a continuum and are used in tandem to focus on ‘logic of feasibility and practicability’ through their application to the research questions at hand (Hesse-Biber, 2015). Thus, using a pragmatic paradigm throughout this study allows for flexibility at each research phase to best answer the dynamic research questions presented.

3.2 Implementation Research

Aligned with pragmatism, implementation research was chosen as a suitable approach to respond to the current situation within the PSNI, as it works within real world situations and the population that stands to benefit from the research (Peters, et al., 2013). Moreover, implementation research focuses on the context of the research environment and is not concentrated solely on the production of knowledge, but is highly concerned with the users of the research (Peters, et al., 2013). Implementation research includes strategies to feedback knowledge to key stakeholders and is used to encourage learning and adaptation within the organisation in which it is conducted, where the uptake of information directly impacts the users of the research. Users benefit from having research that is specifically tailored to their organisational context and situation and specific recommendations can be provided to implement positive change. In order to facilitate the creation of knowledge and key information necessary for the organisation, it is necessary that the methods of the research are flexible, and thus, pragmatism presents a practical paradigm for implementation research (Peters, Adam, Alonge, Agyepong, & Tran, 2013).

Consistent with implementation science approaches, mental health services, a part of OHW, within the PSNI had a direct impact on this research by assisting to identify the
key deliverables needed to enhance their services to police officers and staff. First, the PSNI were directly involved in the initial design of the research by identifying the key gaps in knowledge and the essential research questions that they need answered. The research questions were developed through a collaboration with the PSNI and myself. The PSNI contributed to the development of each phase of the study, specifically through discussions with Mental Health Services. Finally, recommendations were formulated through a user-based approach and utilised feedback from a focus group discussion with key stakeholder within OHW to ensure feasibility and increase uptake. Thus, the use of implementation research focuses on answering the research questions through the most suitable methods and implement change through the development of recommendations based on the results of the study.

Implementation research is useful for an organisation like the PSNI due to the unique and specific context in which it operates, which must be taken into account to properly investigate the mental health of this population. Additionally, the PSNI identified specific areas for which they required the development of empirical evidence and their facilitation in the research process lends itself to the principles of implementation research. The use of implementation research was critical in ensuring that the direct needs of the PSNI were met as a result of the study. The dyadic relationship that implementation research provides allowed for the context of the PSNI to be thoroughly explored and for the findings to be meaningful to the organisation. Through the use of implementation research, the results of this study can be used to make specific impacts to the organisation based on their exigency.

3.3 Demographics of the PSNI

The PSNI can be broken down into two types of police: police officers and police staff. Overall, there are 6,919 (73% of PSNI employees) police officers (sworn police) and
2,495 (27% of PSNI employees) police staff (civilian staff), totalling 9,414 employees in the organisation (PSNI, 2020b). Police officers are sworn into service and have taken an oath of commitment to the police force. They are uniformed officers who work directly in the capacity of law and order. In contrast, police staff are made up of civilians who work alongside police officers in very particular roles such as data analytics or Human Resource employees. While not sworn officers, over the last several years, their various operational roles have become increasingly ‘civilianised’. For example, Scientific Support Officers who work within Crime Scene Investigation to collect photos, fingerprints, and map crime scenes. While these roles used to be held by police officers, changes to the service mean that they are now considered staff roles. A such, they work alongside officers but are employed as civilian staff.

The rankings of the PSNI is similar to other forces across the globe. The service includes one Chief Constable, one Deputy Constable, and four Assistant Chief Constables; followed by 15 Chief Superintendents, 53 Superintendents, 86 Chief Inspectors, 330 Inspectors, 992 Sergeants and 5,056 Constables (all full-time officers) (PSNI, 2018). The most recent reports on PSNI demographics (PSNI, 2020b) show that female officers constitute just under 30% of police officers and nearly 60% of police staff. These figures parallel many other police forces where males make up the large majority of the service. Unlike gender, religious denomination of the PSNI populations has been affected as a result of the political context in Northern Ireland. Currently two-thirds of all officers are Protestant and just over a third are Catholic, and less than 2% of officers do not disclose a religion. Additionally, ethnic minorities make up just over 0.5% proportion of the police, both officers and police staff. Although this figure is low compared to other forces around the world, it is reasonably consistent with the demographic make-up of Northern Ireland (1.7% ethnic minority).
The PSNI is composed of eight branches: Command, Corporate Communications, Crime Operations, District Policing, Finance and Support, Human Resources, Legacy and Justice, and Operational Support. Within each of these branches are several sub-branches that are further divided into particular units. The main sub-branches and their related branches for those included in the survey are outlined in Figure 3.1.

Figure 3.1

**PSNI Structure**

Many of the sub-branches and units were included in the survey, where there was a large enough sample of participants. No sub-branches for Corporate Communications, Command, and Finance & Support were used in this study, as the numbers were too small in each of these branches to include sub-branches for anonymity purposes.

In addition to the eight branches, there are various secondary roles which officers and staff take on, in addition to their primary job remits. These secondary roles are also highly important in understanding the various risk factors for police, as many of the secondary roles are high stress and involve exposure to potentially traumatic situations. These roles include positions such as a crisis and hostage negotiator, body recovery, and family liaison officers for road traffic fatalities, where the officer is responsible for
informing the family of the death. PSNI personnel often experienced various roles within the police service and consequently work across a variety of units or branches. Therefore, officers and staff encounter many different aspects of working for the PSNI throughout their employment.

3.4 General Design

Aligned with pragmatism, the current study incorporates both qualitative and quantitative methods to address the research questions. A multi-method approach was thus used across four distinct phases of the study, whereby each phase of the study was used to inform the design of the following phase. In the first phase, a systematic literature review was conducted to glean a better understanding of policing stressors and their known impact on psychological outcomes and to answer research question one. Next, and aligned to implementation research principles, qualitative interviews with key informants within the PSNI were conducted to obtain contextual information on the types of stressors specific to the PSNI. This phase was used to answer research question two. Taken together, results from the systematic review and preliminary interviews were therefore used to inform the development of a survey, ensuring context-specific factors were also taken into account to ensure the measures in the survey were relevant to PSNI personnel (Fetters, Curry, & Creswell, 2013). Third, this organisation-wide survey was distributed to all members of the PSNI in order to determine rates of poor mental health throughout the service and individual branches, as well as to identify key risk factors that predict adverse mental health outcomes. The survey was conducted to answer research questions two through five. Finally, and again aligned to implementation research approaches, a focus group discussion with the key informants from OHW was conducted, whereby the results of the first three phases were presented back to participants, such that final
recommendations could be generated and subsequently prioritised for implementation.

An overview of the phases can be seen in figure 3.2.

Figure 3.2

*Four Stage Sequential Research Design*

3.5 Phase 1: Systematic Literature Review

To answer research question one and address research objective one, a systematic review was conducted in February 2018 and continued through to August 2018, with the final draft being completed in February 2019. The outcome from the systematic review was the production of knowledge around general risk of adverse mental health outcomes for police officers and staff, providing an empirical foundation for the development of the survey used in Phase 3. The systematic literature review provided validation on which
risk factors and outcome variables to assess in the survey tool. Additionally, this phase
aided in the first developments of a theoretical framework for this study.

3.5.1 Operational Definitions

Specific definitions were employed for each of the search categories. These
definitions were developed by the researcher and second reviewer, with the assistance of
a subject librarian. Police was defined simply as individuals working for the police
service, including both police staff and police officers. Psychological outcomes were

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
<th>Additional search terms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Police</td>
<td>Individuals working for the police service</td>
<td>Police, policeman, policemans, policemans, and law enforcement</td>
</tr>
<tr>
<td>Psychological</td>
<td>Adverse psychological reactions to stress and trauma</td>
<td>Anxiety, depression, posttraumatic stress disorder (and its variations), and burnout</td>
</tr>
<tr>
<td>Outcomes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Risk Factor</td>
<td>Any attribute, experience or exposure that increases the likelihood of developing psychological distress. These may be individual, organisational or operational risk factors</td>
<td>Risk, protective, exacerbating, determining, and contributing factors</td>
</tr>
</tbody>
</table>

defined as any adverse psychological reactions to stress and trauma. Finally, risk factors
were defined as any attribute, experience or exposure that increases the likelihood of
developing psychological distress. These risk factors included a variety of individual,
organisational or operational risk factors. The operational definitions used for the
systematic review, along with the relevant
search terms are summarised in Table 3.1

Table 3.1

*Operational Definitions & Search Terms*
3.5.2 Inclusion and Exclusion Criteria

Studies were included where they identified explicit risk factors of adverse mental health outcomes, the population was comprised of police officers, and the study included validated psychological measures to assess one or more of the following psychological states: anxiety, depression, posttraumatic stress, or burnout. All included studies were required to be peer-reviewed journal articles published within the last 10 years (i.e., January 1, 2008–January 1, 2018), where the abstract and full text were available in English. A 10-year period was chosen based on the inclusion of more recently developed and more up-to-date diagnostic measurement tools, such as the Professional Quality of Life Scale (Stamm, 2009).

Studies where the sample had been working as police personnel for one year or less were excluded on the basis that these studies were not comparable to other studies, given that the first year is commonly a probation period (Tyler & McKenzie, 2011), where officers often spend a majority of their time in training and learn from an experienced Field Training Officer. Mixed populations of first responders (i.e. firefighters, paramedics, search and rescue, etc.) were also excluded. Finally, studies that were conducted as a direct response to a specific event (such as terrorism and/or natural disaster), were excluded given the focus on general policing studies as part of this review.

3.5.3 Search Strategy

The article selection process was based on PRISMA guidelines and was conducted using the systematic review software Covidence (Babineau, 2014; Moher, Liberati, Tetzlaff, & Altman, 2009). Systematic searches were conducted across six medical, psychological, and social science databases (PsycINFO, CINHAL, MEDLINE, SCOPUS, EMBASE and Social Sciences Index). Articles were then reviewed by title and abstract by the researcher and secondary reviewer to eliminate duplicates and non-applicable articles. The removal
of duplicates and non-applicable articles was done through the use of Covidence software. Included journal articles were subject to full-text screening and subjected to the above inclusion and exclusion criteria.

**3.5.4 Search strings**

Search strings were developed with a second reviewer, as well as with the assistance of a subject librarian at Trinity College Dublin. Several meetings were held to establish the final version of the search strings and to ensure that they were all encompassing of the various advanced search functions needed for the different databases. Ultimately, the search strings used to identify relevant articles for the systematic review included three different search terms. A comprehensive list of search headings was created and included three categories: 1) police, 2) psychological outcomes, and 3) risk factors. The search term ‘police’ included variants of police, policeman, policemen, policewoman, policewomen, and law enforcement. The ‘psychological outcomes’ search terms included anxiety, depression, compassion fatigue, burnout, and posttraumatic stress disorder, and their relevant variations. The search terms for ‘risk factor’ also included the terms risk, protective, exacerbating, determining, and contributing factors. The search strings required articles to have a minimum of one term from each of the categories. Free searches were conducted, as well as combined searches and the relevant advanced search functions provided by each database (such as MeSH on Medline). As standard practice, the strategy for this review was to focus solely on articles containing the search terms in the title, abstract, or as a key word/major heading. The final search strings for each database included a comprehensive list of both free text and advanced search options across the three categories. The final search strings for each database are presented in Table 3.2.
### Table 3.2

**Overview of Final Search Strings**

<table>
<thead>
<tr>
<th>Database</th>
<th>Search String</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSYCINFO</td>
<td>(DE &quot;police personnel&quot; OR TI (Policem?n OR policewom?n OR police OR policing OR “law enforcement”) OR AB (Policem?n OR policewom?n or police or policing OR “law enforcement”) ) AND (DE &quot;Anxiety Disorders&quot; OR DE &quot;Posttraumatic Stress Disorder&quot; OR DE &quot;Major Depression&quot; OR DE &quot;post-traumatic stress&quot; OR AB (Anxiet* OR depressi* OR PTSD OR &quot;post traumatic stress*&quot; OR &quot;Posttraumatic stress*&quot; OR burnout OR burn-out OR burnt-out OR burned-out) OR TI (anxiet* OR depressi* OR PTSD OR &quot;post traumatic stress*&quot; OR &quot;Posttraumatic stress*&quot; OR burnout OR burn-out OR burnt-out) AND ((DE &quot;risk factors&quot; OR TI ((Risk OR protective OR contribut* OR exacerbating OR determin* OR resilien*) N2 factor*)) OR AB ((Risk OR protective OR contribut* OR exacerbating OR determin* OR resilien*) N2 factor*))</td>
</tr>
<tr>
<td>CINHAL</td>
<td>(MH police) OR TI (Policem?n OR policewom?n or police or policing OR “law enforcement”)) AND (MH (&quot;Stress Disorders, Post-Traumatic/RF&quot; OR &quot;Anxiety/RF&quot; OR &quot;Depression/RF&quot; OR &quot;Burnout, Professional/RF&quot;) OR AB (Anxiet* OR depressi* OR PTSD OR &quot;post traumatic stress*&quot; OR &quot;Posttraumatic stress*&quot; OR &quot;post-traumatic stress*&quot; OR burnout OR burn-out OR burnt-out OR burned-out) OR TI (anxiet* OR depressi* OR PTSD OR &quot;post traumatic stress*&quot; OR &quot;Posttraumatic stress*&quot; OR &quot;post-traumatic stress*&quot; OR burnout OR burn-out OR burnt-out OR burned-out) AND ((MH &quot;Risk Factors&quot;) OR TI ((Risk OR protect* OR contribut* OR exacerbating OR determin* OR resilien*) N2 factor*)) OR AB ((Risk OR protect* OR contribut* OR exacerbating OR determin* OR resilien*) N2 factor*))</td>
</tr>
</tbody>
</table>
| MEDLINE        | (MH (police OR "law enforcement") OR TI (Policem?n OR policewom?n or police or policing OR “law enforcement”)) AND (MH ("Depressive Disorder" OR "Stress Disorders, Post-Traumatic" OR "anxiety disorders" OR "Burnout, Professional") OR AB (Anxiet* OR depressi* OR PTSD OR "post traumatic stress*" OR "Posttraumatic stress*" OR burnout OR burn-out OR burnt-out OR burned-out) OR TI (anxiet* OR depressi* OR PTSD OR "post traumatic stress*" OR "Posttraumatic stress*" OR burnout OR burn-out OR burnt-out OR burned-out)) AND (MH ("Risk
Factors" OR "Protective Factors" OR "Precipitating Factors") OR TI ((Risk OR protective OR contribut* OR exacerbating OR determin* OR resilien*) N2 factor*) OR AB ((Risk OR protective OR contribut* OR exacerbating OR determin* OR resilien*) N2 factor*)

SCOPUS

(TITLE-ABS-KEY (anxiet* OR depressi* OR ptsd OR "post traumatic stress*" OR "Posttraumatic stress*" OR burnout OR burn-out OR burnt-out OR burned-out) ) AND (TITLE-ABS-KEY ("Risk factor*" OR "protective factor*" OR "protecting factor*" OR "contributing factor*" OR "determining factor*" OR "resilient factor*" OR "resilience factor*" OR "exacerbating factor*")) AND (TITLE-ABS-KEY (policemen OR policewomen OR policewoman OR policeman OR police OR policing OR "law enforcement" ) )

EMBASE

('law enforcement'/mj OR 'police'/mj OR 'police':ab,ti OR 'law enforcement':ab,ti OR 'policeman':ab,ti OR 'policewoman':ab,ti OR 'policing':ab,ti OR 'policemen':ab,ti OR 'policewomen':ab,ti OR 'law enforcement':ab,ti OR 'policeman':ab,ti OR 'policewoman':ab,ti OR 'policing':ab,ti) AND (depression/mj OR 'anxiety disorder'/mj OR 'posttraumatic stress disorder'/mj OR 'burnout'/mj OR 'depress*':ab,ti OR 'anxiet*':ab,ti OR 'ptsd':ab,ti OR 'posttraumatic stress*':ab,ti OR 'post traumatic stress*':ab,ti) AND ('risk factor'/mj OR 'risk factor*':ab,ti OR 'protect* factor*':ab,ti OR 'contribut* factor*':ab,ti OR 'determin* factor*':ab,ti OR 'resilien* factor*':ab,ti OR 'exacerbating factor*':ab,ti)

Social Sciences Index (H.W. Wilson)

(DE ("police" OR "law enforcement") OR TI (police OR Policem?n OR policewom?n OR policing OR “law enforcement”) OR AB (Policem?n OR policewom?n OR police OR policing OR “law enforcement”)) AND (DE ("Post-traumatic stress disorder" OR "Anxiety disorders" OR "Mental depression" OR "Mental depression risk factors" OR "Anxiety" OR "Burnout (Psychology)") OR AB (Anxiet* OR depressi* OR PTSD OR "post traumatic stress*" OR "Posttraumatic stress*" OR "post-traumatic stress*" OR burnout OR burn-out OR burnt-out OR burned-out) OR TI (anxiet* OR depressi* OR PTSD OR "post traumatic stress*" OR "Posttraumatic stress*" OR "post-traumatic stress*" OR burnout OR burn-out OR burnt-out OR burned-out)) AND (TI ((Risk OR protect* OR contribut* OR determin* OR resilien* OR exacerbating) N2 factor*) OR AB ((Risk OR protect* OR contribut* OR determin* OR resilien* OR exacerbating) N2 factor*))
3.6 Phase 2: Preliminary Interviews

In addition to the results of the systematic review, preliminary interviews were also conducted to further inform the organisation-wide survey used in Phase 3, as well as to answer research question two. In line with implementation research approaches, interviews were conducted across various sectors of the organisation and served to better understand the unique working environment within the PSNI. Participants provided additional risk factors that were specific to the context of the PSNI, which were not captured by the systematic literature review, namely those of security related risk associated with policing in a post-conflict environment. The knowledge created by the preliminary interviews was essential to include as part of the survey and ensured that the survey was seen as acceptable and relevant to PSNI personnel. This sequential model of research, where the PSNI was feeding back information to develop the survey, was a key reason for using an implementation research approach. The interviews were semi-structured and covered a range of organisational and operational topics, including what participants found specifically stressful about their unique role in the organisation, what the organisation could do to improve the well-being of its personnel, and specific stressors related to terrorism and working for the PSNI. The results of the interviews, used in combination with the systematic literature review, were therefore used to design a more relevant survey; one that reflects the culture of the PSNI and the specific occupational stressors involved.

3.6.1 Recruitment

Potential participants were recruited through purposive approaches. Officers and staff were informed of this study through the researchers participation in various internal team meetings and through presentations given on the research, where the researcher directed any interested participants to contact me via email, as well as through recommendations.
from other individuals who had taken part in the research. The head of Mental Health Services also acted as a gatekeeper in referring some individuals to consider taking part in this research. Purposive sampling was conducted in order to ensure that participants were of varied ranks, branches, lengths of service, age and gender. While there were a limited number of participants and they were not entirely representative of the PSNI service, they were essential scoping interviews for this research project.

3.6.2 Participants and Procedures

Five potential participants were identified, and invitations, participant information leaflets and consent forms were sent to them via internal PSNI email. Each participant invitation was personalised for the individual. The email specified my contact details that participants should contact, were they interested in participating, in order to arrange a time and date that suited them. All five selected potential participants agreed to take part. The final group of participants included one individual from each of the following units: Scientific Support, Crime Investigation, Armed Response, Community Policing and Public Protection. These interviewees ranged in their rankings from the lowest rank of Constable through to Chief inspector and included four police officers and one civilian staff member in an operational capacity. There were two Constables, one Sergeant, one Chief Inspector and one civilian staff member that took part. There were three male and two female participants. The length of service within the PSNI ranged from 9 to 38 years with many of them having experienced working across various departments during this time.

Interviews were arranged at a time and location that suited respondents, mostly in a private room at their place of work, during working hours. Written or oral consent was obtained prior to the interview, with all five interviewees consenting to have the interview audio recorded. Interviews lasted between 20 and 150 minutes. All interviews were
recorded on a password protected recording device. Transcripts were stored on a password protected computer on an encrypted word document. Participants were invited to review or amend their transcript at any time.

3.6.3 Measurements Tools

The interview schedule was developed to acquire a better understanding of the unique context of the PSNI in order to support the development of the survey. While the systematic literature review provided general information regarding the risk and protective factors for adverse police mental health outcomes, the interview schedule focused on bringing forward the unique nature of policing in Northern Ireland and the cultural and organisational climate of the PSNI. Interviewees were asked to describe their job role and their experience with the PSNI. Questions then asked about the PSNI as an organisation and what their opinions were regarding how the organisation was operating, the benefits of working for the PSNI, areas of improvement for the organisation and the types of stress they encounter as a result of working for the police service. These were asked with regards to the organisation only, and not their particular operational stress. This was done by framing the question so that they were to think about the organisation as a whole and not in regard to their operational capacity. Participants were asked about their experience working for the PSNI and the positive and negative aspects of working for the organisation.

Next, they were asked to expand on their experience in their particular operational or job role. This section included giving a brief overview of their responsibilities and job role, the types of stress they encounter in their role, and what types of stressors are unique to the PSNI, as a general service. Additionally, participants were asked to consider the unique situation of policing in Northern Ireland and the specific stressors and risks that
are associated with this context. A copy of the interview guides used can be found in Appendix A.

3.6.4 Data Analysis

Interviews were transcribed verbatim and any potential identifiers were removed (i.e. names, places, job titles). The preliminary interviews were analysed using thematic analysis and followed the steps proposed by Braun and Clarke (2006). Prior to engaging in the analysis, the transcriptions were read through in order to thoroughly familiarise myself with the data. During the process of familiarisation notes were taken and concepts highlighted as an initial, informal coding process to immerse myself in the data. Relating ideas or opinions that were discussed across various interviews were deemed as concepts and provided a preliminary framework for the subsequent development of themes. Once this was completed, open coding was undertaken by identifying key features of the data. Words, phrases and sentences that appeared to fall into the previously identified concepts, as well as into new categories which were identified throughout the coding process, qualified as codes. Once coding was competed, the codes were then organised at a broader level of themes through observing relationships and patterns in the codes. Themes were then reviewed and adjusted to be coherent within each theme and ensure the themes were also distinct of one another, in line with Patton’s concepts of *internal homogeneity and external heterogeneity* (Patton, 1990). These themes were isolated as either organisational stressors or operational stressors and analysed accordingly. Finally, themes were named and reported on.

Although the operational aspects of stress varied greatly due to the unique job role of each participant, there were clear patterns and themes to be identified as organisational stressors. The data collected during the interviews, in conjunction with the systematic review, allowed for an increased breadth of knowledge on the subject matter for the
survey. As a result, the interviews and systematic literature review led to the selection of variables, and subsequently, which scales were included in the survey. The sequential design of this study allowed for the tailoring of the survey tool to ensure it was relevant to participants within the PSNI.

3.7 Phase 3: Survey

Phase three encompassed a rigorous, organisation-wide survey. This third phase of the research served to identify existing rates of poor mental health amongst the service, who, within the PSNI, is most at risk of adverse psychological reactions, as well as to identify the most salient risk factors for adverse psychological reactions within the organisation – as per objectives two and three of this study, answering research questions two, three, four and five. The results of the analysis were then brought forward in phase four to create an evidence-base for the production of recommendations to PSNI policy and practice, such that they can better safeguard the mental health of its staff and officers – as per objective four of this study.

3.7.1 Participants and Procedures

All (N = 9,414) personnel within the PSNI were considered as potential participants of this study (PSNI, 2020a). The survey was available online for PSNI personnel to complete either at work or from home. Information leaflets, consent forms, and participant invitations were sent out via email and hard copies were also sent to the home addresses of those on sick leave (who did not have access to their work email). Surveys were also available in the waiting room at Occupational Health and Wellness.

A total of 1,834 PSNI personnel ultimately participated in the survey, including 1,441 officers (78.6%) and 382 staff (21.4%). The majority of participants were male (60.6%) and the average age of participants was 44. Of the participants who were
officers, the majority were constables, including, reserve, part-time and full-time (72.9%). The average total length of service of participants within the PSNI was 17.5 years. Participants took part from across all eight branches, with the majority of participants being from District Policing branch (38.2%) and Crime Operations (33.2%).

3.7.2 Survey Design

The online survey was available both internally on the police intranet, as well as externally from a personal computer, with the latter option allowing for complete anonymity. It also allowed those who were on sick leave or who work primarily outside of a station, with limited access to an internal computer, to be able to complete the survey. The survey programme SNAP was used for data collection. SNAP was chosen as it was approved internally by the PSNI and met all guidelines for both the organisation and data protection. The researcher underwent SNAP training from the Statistics Branch to ensure that they were equipped to collect and interpret all of the data and work in line with PSNI protocols. The survey remained opened for a total of 3 months, 2 months originally with an additional month extension.

3.7.3 Recruitment

All staff and officers in the PSNI were invited to take part in the organisation wide survey, including reserve part-time officers and office-based staff. Unfortunately, previous attempts to conduct research on mental health within the PSNI did not result in practical changes within the organisation. As a result, there remained much scepticism about participating in research and the impact that research would have on organisational change across the organisation. As such, a considerable amount of time was spent raising awareness about the survey across the organisation and recruitment prioritised inclusion and awareness of the survey throughout all departments of the organisation, in line with implementation research principles. Specifically, and as surveys are routinely conducted
within the PSNI, recruitment called attention to the fact that this survey was being
conducted by an individual external to the PSNI, and that the results would be used to
make specific recommendations for Occupational Health and Wellness (OHW).

Participants were informed of the study across various platforms at various times
throughout the recruitment period. Firstly, meetings and presentations were held to
inform line managers from various branches about this research and the importance of
participation for themselves and their teams. Presentations were given across members of
the Armed Response Team, Scientific Support Team, Family Liaison Officers, Cyber
Crime, Local Policing Team, Special Operations Branch , Crime Scene Investigation,
Public Protection Unit, District Policing and at the Employee Engagement and Wellbeing
Working Group, where several branches across the organisation meet on various
occasions in relation to the working strategies behind enhancing well-being within the
organisation.

I also engaged with various branches during their recruitment sessions, skills
trainings and internal meetings in order to discuss my research with officers and
operational staff across the organisation. Several meetings were held with high ranking
officers as well as line managers who were concerned about the psychological well-being
of their team and had been in contact with Mental Health Services for support. In
particular, there was a high amount of correspondence with teams who identified as ‘high
risk’ according to Mental Health Services in order to recruit and ensure good participation
amongst these teams. In addition, recruitment took place with the assistance of Mental
Health Services, located within OHW. In the instance where a line manager or officer
was in contact with Mental Health Services with concerns about the mental well-being of
their teams, they were directed to me. All meetings were used to give specific information
about the survey and further emphasise the importance of participation for these units.
The researcher then provided them with information about the study objectives and how the study would be used to implement policy change within the organisation, thus encouraging participation from these units and branches. Meetings were also held with the Chief Medical Officer of OHW at the PSNI and the chairman of the Police Federation of Northern Ireland to further enhance participation.

Recruitment for the survey also included internal communications and social media within the PSNI. The PSNI have an internal magazine circulated to all departments. The researcher placed a full page spread about the survey, describing why and how to participate, and what the results would be used for. An article was also posted on the internal police internet home screen where participants could click a link to read more about the study. A short video was recorded to describe the research, which was embedded into the initial email, posted on the Wellbeing Hub (internal application at PSNI) and on the intranets home page on two different occasions.

Emails were set from myself, the head of Mental Health Services, as well as the Chief Medical Officer of PSNI at various times to provide information and the link to take part in the survey. Having the email sent directly from the Chief Medical Officer meant that the email flagged as ‘important’ and increased the likelihood that officers and staff would engage with the email. The email included the participant information leaflet, consent form, and invitation as attachments, as well as an embedded link to the survey, and was sent out to all employees at the PSNI. Follow-up emails were also sent from both head of Mental Health Services and the Chief Medical Officer of the PSNI, as reminders to take part before the closing date. Personalised emails were also sent to each branch outlining participation rates of their teams so that line managers could further encourage their teams to take part if they were showing low numbers of participation.
Survey information leaflets were left at the check in desk of OHW and posters were hung in the waiting rooms, where officers and staff attend appointments with nurses, physiotherapists and mental health practitioners. All staff in OHW were informed of the survey and given the knowledge needed to inform their patients of the importance of participating. Two presentations were given at OHW staff meetings to give the required information to employees as well as participant invitations, information leaflets, and consent forms to hand out during their sessions. This was considered particularly important in order to reach the large number of staff and officers on sick leave for mental or physical health reasons as they otherwise would not have received information about the study via the PSNI’s intranet or work email. Accessing those on sick leave was considered particularly important in order to ensure representation from those who have potentially been the most impacted psychologically as a result of their work. As such, invitations and consent forms were also posted first-class signed delivery to home addresses of staff an officers on sick leave and, as line managers are required to make contact with those on sick leave every other week, line managers were asked to also remind officers to take part in the survey. After completing the survey, contact details were given for OHW’s Mental Health Services should any participants feel they were distressed as a result of participating.

3.7.4 Measurements Tools
The survey included a number of scales to assess three domains of trauma and stress – individual, organisational, and operational – as well as various negative mental health outcomes. The mental health outcomes included measures for anxiety, depression, PTSD, CPTSD, burnout and secondary traumatic stress. The full questionnaire is available in Appendix B.
3.7.4.1 Demographics

Demographics were taken from each participant and included information on gender, age, marital status, number and age of children, and education level. In addition, various questions were asked about officer and staff position and experience at the PSNI. Participants were asked where they were currently posted (which district) and how long they have worked for the PSNI. Additionally, participants were asked if they were employed as an officer or staff and, based on their answer, were then directed to the relevant questions regarding which branch, sub-branch and, in some cases, the specific unit they work in. They were also asked what rank they were currently in and if they had ever worked in other units at the PSNI.

3.7.4.2 Individual Factors

Life Events Checklist – Revised was used to screen for potentially traumatic events that have occurred across the respondent’s lifetime (i.e. including childhood experiences as well as adult experiences) (Gray, Litz, Hsu, & Lombardo, 2004). The Life Events Checklist for DSM-5 (LEC-5) was selected for this study due to its range of potentially traumatic experiences as well as the inclusion of combat related questions, given the context of Northern Ireland. The list of events were amended to include additional events to take into account childhood adverse experiences. Therefore, some questions from the Adverse Childhood Experiences International Questionnaire (World Health Organization, 2018) were added to the LEC-5. Additional items included “Did a parent of other household adult have a mental illness?”, “Did a parent or other household member often swear at, insult or put you down?”, “Did a parent or other household member ever physically push, grab, shove of slap you?”, “Did a parent or other household member ever hit you so hard that it injured you or left marks?”, “Did you live with anyone who was a problem drinker/alcoholic or was dependant on drugs?”, and “Did you ever witness a
family member being physically abused (i.e. pushed, kicked, grabbed, slapped, etc.?”. The additional question of “Did you ever experience any severe financial difficulties?” was also included.

Finally, the context of the LEC-5 was adjusted to ensure no crossover of questions relating to trauma in police work, as many questions asked in the LEC-5 occur in policing. Therefore, questions were worded so that respondents would not include experience related to their police work. For example, “Assault with a weapon - outside of police work (for example being shot, stabbed, threatened with a knife, gun or bomb.” The question instructions were also worded so that respondents would answer the questions in relation to their personal life and not work – “please answer the following questions in relation to your personal life and, not your work life”. Finally, to include experiences in adolescents, this questionnaire was asked as a tick all that apply and had two columns of boxes respondents could select: “please tick if happened in childhood (before you were 18)” and “please tick if happened in adulthood (after you were 18)”. In this study, the Cronbach alpha coefficient for the LEC-5 Revised was $\alpha = .78$, representing satisfactory internal reliability (DeVellis, 2012).

**Brief COPE Inventory** was used to measure what each participant generally feels or does in response to stressful events (Carver, 1997). The 28-item brief cope inventory was chosen due to its shortened length, compared to the original 60-item COPE Inventory. It also includes various types of coping, whereas other measures often focus on a single type of coping strategy, such as the Proactive Coping Inventory (Greenglass & Schwarzer, 1998) and the Brief Resilient Coping Scale (Sinclair & Wallston, 2004). It asks participants to answer on a 4-point Likert scale, ranging from 1 = “I haven’t been doing this at all” to 4 = “I have been doing this a lot” and covers various types of coping strategies. These include Self-distraction, Active coping, Denial, Substance use, Use of
emotional support (support in the form of empathy and compassion), Use of instrumental support (assistance from others that is tangible, usually something that another can physically do or provide to help), Behavioural disengagement, Venting, Positive reframing (viewing a situation in a more positive light), Planning, Humour, Acceptance, Religion, and Self-blame. No amendments were made to this measure however subscales were developed for the analysis to create a four-factor brief cope scoring. These included seeking social support, problem solving, avoidance and positive thinking. The development of these subscales was derived from Baumstarck et al. (2017) validated four-factor structure of the Brief COPE Inventory. The Cronbach’s alpha within this study for the Brief COPE Inventory was $\alpha = .85$.

**Indifference to Stigma**, a subscale of the Inventory of Attitudes towards Seeking Mental Health Services was included in the survey. This questionnaire measures respondent’s perception of stigma related to mental health, particularly around seeking mental health support. Some examples of the types of statements that respondents rated in this measure include “I would not want my significant other (spouse, partner, etc) to know if I were suffering from psychological problems”, “Hypothetically, having been mentally ill carries with it a burden of shame”, and “I would feel uneasy going to a professional because of what some people would think.” This is an 8-item measure includes 5-point Likert style questions, ranging in response from $0 = \text{disagree}$ to $2 = \text{undecided}$ to $4 = \text{agree}$. Cronbach’s alpha coefficient was acceptable at $\alpha = .83$.

**The Ten Item Personality Inventory** was used to measure various personality traits of police officers and staff including extraversion, agreeableness, conscientiousness, emotional stability and openness to experiences. These five personalities factors are described as: 1) emotional stability is demonstrated by a person who is calm, centred, relaxed and hearty; 2) extroversion relates to sociability, activity, and is linked to positive
emotions such as happiness and pleasure; 3) openness to experiences describes a person who has rich and complex emotions and who is imaginative and artistic; 4) agreeableness is associated with someone who is cooperative, trusting, and sympathetic; and 5) conscientiousness identifies people who are well-organised, diligent and scrupulous (Esaki, 2019).

The Ten Item Personality Inventory (TIPI) is consistent with the PPS-CPTSD theory whereby personality is a major factor in predicting the mental health outcomes of trauma exposed police officers and other public safety personnel. This measure includes 10 items on a 7-point Likert scale ranging from 1 = “strongly disagree” to 7 = “strongly agree”. Cronbach’s alpha coefficient was acceptable at $\alpha = .70$.

3.7.4.3 Organisational Stress

Health and Safety Executives Management Standards Indicator Tool (HSE Tool) was used to measure various areas of organisational stress (Health and Safety Executive, 2009). The HSE Tool is a 35-item measure covering various questions regarding working conditions and includes several subscales: demand, control, manager support, peer support, relationships, role, and change. Many of the questions asked in this measure are consistent with the Demand Control Support model. This tool was chosen due to its comprehensive set of questions that cover the various areas of working for an organisation. All questions are asked on a five-point Likert scale, ranging from 1 = “never” to 5 = “always”. No amendments were made to this measure. The Cronbach’s alpha for this measure in this study was sufficient at $\alpha = .77$.

Survey of Perceived Organisational Support (SPOS) was used to gauge how respondents felt the PSNI supported them. Phases one and two of this study, the systematic literature review and preliminary interviews, highlighted the importance of the impacts of social support on police mental health. The SPOS also aligns itself with
support aspect of the DCS model, whereby support buffers the negative effects of
workplace demand and control. The SPOS used was the 8-item brief version
(Eisenberger, Huntington, Hutchison, & Sowa, 1986). The 8-item SPOS was used instead
of the original 36-item questionnaire, as it is more efficient and shows the same
effectiveness (Worley, Fuqua, & Hellman, 2009). The questions were asked on a 7-point
Likert scale, with responses ranging from 0 = ‘strongly disagree’ to 7 = ‘strongly agree’
and was kept in the original format with no adaptations. Questions covered a range of
support aspects including questions such as ‘the organisation values my contribution to its
well-being’, ‘the organisation shows very little concern for me’, and ‘the organisation
takes pride in my accomplishments at work.’ The SPOS in this sample was good, with a
Cronbach’s alpha coefficient of  = .87.
PSNI-Related Stress was developed from the results of the phase two interviews
and general discussions with key informants at the PSNI, the PSNI-related stress
questions were presented as “tick all that apply” and consisted of 12 items. The 12 items
included: “Being served with internal investigation papers,” “Being involved in an
investigation with the Police Ombudsman”, “Being arrested due to an incident which
occurred on duty”, “Being suspended from work”, “Having your own home or property
seized or searched”, “Being subject of a campaign of bullying by a colleague or
manager”, “Dropping to half pay as a result of injury on duty,” “Attending an industrial
tribunal in relation to an employment matter involving PSNI”, “Refused flexible
working”, “Absence Management Panel procedure”, “Perceiving organisational injustice
in others”, and “Cancelled leave.”
Security Threat was also developed for the context of the PSNI, as a result of the
preliminary interviews taking place in phase two. Security threats contained nine “tick all
that apply” questions including: “I check under my car before driving most, or all, days”,

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“I have been the subject of personal threat”, “My family has been the subject of personal threat”, “I have been the subject of a personal terrorist attack”, “My family has been the subject of a personal terrorist attack”, “I have had to have a security package fitted at my home”, “I have had to move house due to being under threat”, “I have had to move under SPED (Special Purchase of Evacuated Dwellings)”, and “I have had to give evidence in court with the fear of being identified by dissident terrorist groups.”

3.7.4.4 Operational Stress

Critical Incident History Questionnaire (CIHQ) was used to measure operational stress, particularly exposure to stressors and traumas related to being in the line of duty. The CIHQ aligns itself with the Police Complex Spiral Trauma, where the various types of traumatic exposures in police work are cumulative and complex in nature (Papazoglou, 2013). This checklist was originally developed by Weiss et al. (2010) as a comprehensive list of various potentially traumatic exposures that officers encounter and was adapted for use within the PSNI. Specifically, the questionnaire was adapted to be a “tick all that apply” measure and specific critical incidents were added to meet the unique circumstances and capture the nature of policing in Northern Ireland, as identified during the interviews conducted in the second phase of this study. As a follow up to the interviews, officers and staff were asked to review the compiled list of critical incidents, as a preliminary adaptation of the CIHQ, and identify any additional items that they felt were missing. The additional questions included in the CIHQ as a result of this adaptation step included “Being involved in public order incidents/riot control”, “Receiving verbal threats against yourself while on duty”, “Being involved in a scene with a potential explosive device”, “Being involved in a scene where a device has detonated”, “Having to touch, move or tag a corpse or human remains”, “Attending a post mortem”, “Working closely with a family who are severely distressed”, “Interviewing victims of sexual or
violent crime”, “Viewing images/videos/materials of children being physically or sexually abused”, “Viewing images/videos/materials of adults being physically or sexually abused”, “Viewing images/videos/materials of animals being abused”, and “Being ambushed or the target of a secondary attack at a scene or incident.”

**Operational Roles** within the PSNI were captured by using a comprehensive list of Branches, Sub-branches and Units within the service. To develop this, the researcher worked closely with the Establishments and Structures Department to compile an up-to-date list such that participants would be able to accurately select their roles within the PSNI. This was structured in way where participants would first select if they were a police officer or civilian staff, followed by the branch they work for. From there, the relevant dropdowns for sub-branches and units of those sub-branches would be available for selection.

**Secondary Roles** were also included as a set of questions, where officers and staff were asked about any additional roles that they have taken on above and beyond their primary job role. This list was derived from speaking with the unit Establishment and Structures, as well as a result of the information derived from the preliminary interviews with participants in phase two of the study. These secondary roles include Body Recovery and Disaster Victim Identification Team; Chemical, Biological, Radiological and Nuclear Response, Security Coordinator; Joint Emergency Services Interoperability Programme; Family Liaison Officer – Road Traffic Collisions; Family Liaison Officer – Crime; Federation Representative; Firearms Commander; Hostage and Crisis Negotiator; Humane Destruction of Injured, Diseased or Alive Animals; Peer Support Debriefer; Police Search Advisor; Post Incident Manager; Public Order Commander / Tactical Advisor; Search and Rescue; Senior Identification Manager; Union Representative; and Use of Less Lethal Technology Against an Armed, Threatening Subject. Participants
were instructed to ‘tick all that apply’ for these roles and were also asked how long they had participated in each of the secondary roles they had. These roles often change titles or shift remit so an open-ended answer option was also made available should a secondary job role not appear in the original list.

3.7.4.5 Psychological Outcomes

Finally, various measures were used to capture the psychological outcomes of police officers and staff. These included measures for anxiety, depression, PTSD, CPTSD, Burnout, and Secondary Traumatic Stress.

**Generalized Anxiety Disorder Questionnaire 7 (GAD-7)** was used to measure the frequency of anxiety symptoms such as feeling nervous, anxious or on edge, not being able to relax, and becoming easily annoyed, over the preceding two weeks (Spitzer, Kroenke, Williams, & Löwe, 2006). This measure was used for identifying probable cases of anxiety within the population and was selected due to its high validity, its brief 7-items, and its alignment with the DSM-IV criterion (Spitzer et al., 2006). This scale uses a 4-point Likert scale, ranging from 0 = ‘not at all’ to 3 = ‘nearly every day’ and is simple for participants to answer. In addition to the 7-items a further question is asked about how difficult the respondent felt that the symptoms were for them if they had check off any of the problems from the previous 7-items. The response for this question was a tick box and included ‘not difficult at all’, ‘somewhat difficult’, ‘very difficult’ and ‘extremely difficult’. This measure showed high reliability in this study, with a Cronbach’s alpha of \( \alpha = .94 \).

**Patient Health Questionnaire 9 Depression (PHQ-9)** was used to measure depression symptoms, such as having little interest or pleasure in doing things, feeling down, depressed or hopeless, and poor appetite or overeating, over the past two weeks (Kroenke, Spitzer, & Williams, 2001). This measure for identifying rates of depression
was selected due to its simplicity and brief 9-item form. Additionally, the PHQ-9 is aligned to the DSM-IV criterion and shows diagnostic validity (Kroenke et al., 2001). The PHQ-9 uses a 4-point Likert scale similar to the GAD-7, with responses ranging from 0 = ‘not at all’ to 3 = ‘nearly every day’. The Cronbach’s alpha (α = .91) was excellent for this sample.

**International Trauma Questionnaire (ITQ),** developed to measure PTSD and Complex PTSD, as per the criteria set forth by the 11th version of the International Classification of Disease (ICD-11) (Cloitre, Shevlin, et al., 2018), the ITQ was chosen for its widely reported validity across studies. The ITQ has been shown to have excellent reliability and validity in general population (Ben-Ezra et al., 2018; Cloitre, Hyland, et al., 2018), clinical (Hyland, Shevlin, Elklit, et al., 2017; Karatzias et al., 2017), and refugee (Vallières et al., 2018) samples.

Within the measure, participants are first asked to identify an event or stressful experience that they found the most distressing (i.e. their index trauma). The ITQ contains 12 items to measure all of the PTSD symptoms and symptoms of Disturbances in Self-Organisation (DSO), distributed across six clusters, with two symptoms per cluster. Three symptom clusters are shared with PTSD, and the additional symptom clusters reflect DSO problems including ‘affective dysregulation’, ‘negative self-concepts’, and ‘disturbances in relationships’. The PTSD symptoms are answered in relation to how bothersome their symptoms have been in the last month, and the DSO symptoms are answered in terms of how a person thinks about oneself, relates to others, or how the individual typically respond to a traumatic or stressful event – the Complex PTSD criterion component. The ITQ provides diagnostic criterion for PTSD and CPTSD as distinct, separate disorders. A PTSD diagnosis is identified if respondents endorse at least one of the symptoms from each of the three PTSD symptom clusters (‘re-experiencing in the here and now’,
‘avoidance’, and ‘sense of current threat’), as well as endorse at least one functional impairment.

The diagnostic criterion for CTPSD is met if the PTSD symptom criteria is met, along with at least one symptom from each of the three DSO criterion. Both sets of symptoms are accompanied by three items that measure how much impairment these symptoms have caused in social, work/education, and other important areas of life. All symptom and impairment indicators are based on a five-point Likert scale that ranges from 0 = ‘Not at all’ to 4 = ‘Extremely’. Participants are also asked when this experience occurred. For the purpose of this study, a further question was added to ask if the experience the participant described was police-related or personal. The internal reliability of the PTSD ($\alpha = .88$) and DSO ($\alpha = .93$) subscale scores in this sample were excellent.

Professional Quality of Life Version 5 (ProQoL-5) was used to measure compassion satisfaction and compassion fatigue (Stamm, 2009). The ProQol-5 is the most frequently used scale for measuring quality of life in a wide range of occupations related to helping others (Perkins & Sprang, 2013; Stamm, 2010). The Professional Quality of Life model was previously outlined in section 2.6.2.1. Due to the nature of burnout and its unique intersection of various stressors, the ProQol-5 includes questions regarding individual, operational and organisational risks. This 30-item measure uses a 5-point Likert scale, ranging from 1 = ‘never’ to 5 = ‘very often’ and is comprised of 3 subscales: compassion satisfactions, secondary traumatic stress and burnout. This measure was chosen due to its subscales and its strong construct validity (Stamm, 2010). For this study, it showed acceptable reliability with a Cronbach’s alpha of $\alpha = .76$. 


3.7.5 Data Analysis

The survey data was analysed using SPSS (Version 25). Once the datafile was cleaned, it was further prepared for analysis using a combination of recoding, adding dummy variables and calculating total scores for various measures and measure subscales. Where applicable, the sample was divided into a subset for police officers ($N = 1,441$) and police staff ($N = 382$) to allow for a depth comparison analysis of operational risks.

An alpha of 0.01 was used to define statistical significance in order to reduce the chance of Type 1 error when investigating the multiple dependent variables of mental health outcomes. Police service branches were also recoded for Chi-square analysis due to low cell counts. The branches with low participant numbers, which were the administrative-based branches (Corporate Communications, Command, Human Resources, Finance and Support), were recoded into a single ‘Administration-based Branch’ category. The other branches (Crime Operations, District Policing, Legacy and Justice, and Operational Support), who had stronger participant numbers and are based on having operational police capacities, remained unchanged.

Several categorical and ordinal variables were also recoded into dummy variables for the hierarchical multiple regression analysis. The dummy recodes for categorical variables included: sex (male = 0, female = 1), relationship (‘in a relationship’ = 0, ‘not in a relationship’ = 1), children (‘no children’ = 0, ‘have children’ = 1), education (‘up to secondary’ = 0, ‘post-secondary and higher’ = 1), PSNI location (‘outside Belfast’ = 0, ‘Belfast’ = 1), rank (‘sergeant and above’ = 0, ‘constable’ = 0), type of personnel (staff = 0, officer = 1), and branch (‘all others’ = 0, ‘Crime Operations’ = 1). For the dummy recoded relationship variable, both being married and those living with their partner constituted the value of ‘in a relationship’. The ‘all others’ value for the dummy recoded branch variable included Headquarters; Antrim and Newtownabbey; Ards and North
Rates of adverse mental health outcomes for across the PSNI (research question three and objective three) was answered using simple frequencies. Those meeting a cut-off score of 11, “moderately severe” and “severe” anxiety, on the GAD-7 were considered to exhibit symptoms of anxiety. Likewise, those meeting a cut-off score of 11 and higher on the PHQ-9 were considered to meet the criteria for depression. For PTSD, the diagnostic algorithm required the endorsement of a score of two, “a little bit” or higher for at least one symptom from each of the three following symptom clusters in the ITQ: re-experiencing, avoidance, and sense of current threat. In addition, a diagnosis of PTSD must include a score of two or higher on at least one functional impairment. CPTSD followed the same diagnostic algorithm as PTSD on the ITQ with the addition of having at least one symptom with a score of two, “a little bit,” or higher for all three Disturbances of Self-Organisation (DSO) symptoms: affective dysregulation, negative self-concept, and disturbances in relationships. To meet the diagnostic criteria for CTPSD respondents must also meet one functional impairment of PTSD and one functional impairment of DSO with a score of two or higher. The ProQol uses a cut-off score of 42 or more for a diagnosis of each of its subscales: compassion satisfaction, secondary traumatic stress, and burnout. To partially address research question five, rates of mental health problems were also compared across a range of key demographic variables including sex, age, having children, relationship status, and education level, and occupational factors: rank, years of service, and location.

To answer the fourth research question, ‘What are the rates of these adverse mental health outcomes (including anxiety, depression, compassion fatigue, burnout,
PTSD, and CPTSD) for each branch in the Police Service of Northern Ireland?’, chi-squared analyses and one-way analyses of variance (ANOVA) were used. Chi square was used to analyse mental health outcomes that had been recoded into categorical variables, as ‘diagnosis’ and ‘no diagnosis’ to compare rates of probable diagnosis across each branch. ANOVA’s were used to compare mean scores of each mental health outcome across the various branches. The effect size, Phi or Cohens-d, was computed for these analyses. For each branch, the chi-square and ANOVA analyses were conducted at three levels: solely police officers, solely police staff, and for all personnel (officers and staff combined).

Finally, hierarchical regression was used to answer research question five, ‘Which risk factors, or combination of risk factors, are most associated to adverse psychological outcomes?’ The hierarchical regression included three blocks of variables: block 1) individual factors, 2) operational factors, and block 3) organisational factors. These blocks were decided upon based on the findings of the systematic literature review and the derived hypothesis of this phase which found that organisational factors were the most influential on mental health of police. Additionally, and aligning with the implementation research approach of this study, these blocks were conceptualised around the practical implications for the PSNI, whereby the results of the analysis could provide specific information of the impacts that organisational factors have on mental health, an area that the PSNI would have the most control over adapting.

The first block, individual factors included the following variables: sex, age, marital status, if they have children, education level, childhood trauma, adult trauma (excluding police-related trauma), coping styles and personality. The second block, operational factors, included location of work post, rank, branch, years of service, secondary police roles, and police-related trauma. The final block, organisational factors,
included working conditions, perceived organisational support, security-related issues, and PSNI-related organisational stressors. To ensure there were no violations of normality, homoscedasticity, linearity and multicollinearity, preliminary analyses were conducted.

3.8 Phase 4: Focus Group Discussion

In line with implementation research principles, a focus group discussion was held to discuss the results of the survey so as to inform the development of a trauma risk management strategy for the PSNI, as recommendations for policy change. The purpose of the focus group was thus to ensure a user-centred approach and to highlight any necessary amendments to the preliminary set of recommendations. The focus group aided to identify the most emergent and salient recommendations in the hopes to increase uptake of the recommendations, while also addressing any potential barriers to their implementation. While the original intention was to host several focus group discussions with various stakeholders, high-risk groups and management teams, this had to be changed due to the current situation regarding COVID-19. In lieu of the various focus groups, a single focus group was held virtually with the Senior Management Team (SMT) in Occupational Health and Wellness. The SMT are the highest-ranking personnel within OHW and were used in this study as key informants to formulate the final recommendations for a risk-management strategy to be used within the service.

3.8.1 Participants and Procedures

Participants of the focus group included a range of individuals from the SMT. This group was chosen due to their knowledge and experience of mental health within the police service and also due to their level of seniority and authority in the service. This fourth phase of the research took place in two parts: (i) a presentation and (ii) a focus group
discussion. The presentation was meant to be conducted via Skype, however, there were some connection problems due to security on some of the SMT’s devices. As a result, we opted to continue through the use of a secure phone line, which required an entry code to engage with the call, through the PSNI. Each participant was emailed the PowerPoint presentation to their work email prior to the presentation in the event that there were technical problems.

Seven participants from the SMT were present for the presentation. The presentation included various outcomes of the survey and covered the key findings. This included overall rates of anxiety, depression, PTSD, CPTSD, burnout, and STS, as well as the mental health outcomes specific to each branch. Between group comparisons were also presented. The statistically significant risk factors for each of the mental health outcomes were also presented, along with a brief interpretation of the findings. Finally, recommendations were put forward that aligned with each key finding presented. At the end of the presentation potential participants were informed of the focus group discussion follow-up and all verbally agreed to participate.

After the presentation was delivered, each potential participant was emailed a one-page brief summary as an overview of the findings and recommendations from the presentation (Appendix C). This was sent one week in advanced of the focus group discussion date. Along with the one-page brief was a participant information leaflet (Appendix D) to explain the purpose of the upcoming focus group, and to inform the potential participants that the researcher would be seeking consent to their participation and to audio record the focus group.

The focus group was held via zoom meeting two weeks after the presentation so that participants had time to review the presentation materials and recommendations, as well as the one-page brief prior to the focus group. In total, there were eight participants
in the focus group, including one participant who was not able to attend the previous presentation. The primary objective of the focus group was to discuss the recommendations developed as a result of the study and to gain feedback from the SMT. All participants gave oral consent to participate in the focus group discussion and to being audio recorded. The researcher was only allotted a one-hour times slot with the SMT group, which while adequate to cover each recommendation in-depth, did not allow for sufficient time for the prioritisation exercise.

Consequently, further recommendations, prioritisation of recommendations, challenges in implementation, and final comments or concerns in the development of the risk management strategy were written up in a short document for participants to complete after the focus group (Appendix E). The option of a follow-up telephone call was also given. Despite follow-up emails, none of the documents were returned and only one individual called to discuss the recommendations.

The analysis used for the focus group discussion was driven by one of the main objectives of this study, to provide empirically-based recommendations towards a risk management strategy for the PSNI. The objective of the analysis was to incorporate the feedback from participants in the development of the final recommendations of a risk management strategy. Therefore, the procedures of the focus group were based on how to best provide recommendations to the organisation so that they are implemented and have a good uptake throughout the service.

3.8.2 Discussion Guide

The discussion guide was developed from the outcomes of the survey and focused on refining the recommendations presented towards the development of a risk management strategy. The aim of the discussion guide was to capture general comments on the recommendations, as well as critiques or suggestions to increase the uptake within the
organisation. A brief overview of the findings was presented again as a refresher at the start of the focus group, as well as to update the participant who was unable to attend the presentation two weeks prior. From there, each recommendation was reviewed and participants were asked to express any concerns, comments or further suggestions. The discussion guide went through each recommendation to gain feedback and any further guidance on how best to implement these. When reviewing each recommendation, the researcher made clear the rational and implications for each recommendation, explaining how each recommendation was aligned with the key finding from the survey and how they addressed the major areas of concern. Additionally, participants were asked if there were any recommendations that they felt should be added to the list.

Due to time restraints, the following sections of the discussion guide were not talked about via the online zoom focus group, but were subsequently emailed to each individual for their responses. This document was circulated by Head of Mental Health Services, and forwarded onto all of the SMT and my email was provided for the return of the document to ensure anonymity and confidentiality of responses. In the follow up document, participants were asked to give any additional recommendations that they feel should be included in the risk management strategy for the PSNI based on the findings of this study. Next, participants were asked which recommendation they felt was most important based on their experience and also which recommendation they felt would be most feasible to implement within the PSNI. From these questions, a prioritisation exercise was outlined where participants were asked to rank and order the recommendations based on a combination of their necessity and feasibility for the service. The next question asked if each participant could foresee any challenges in the implementation of the recommendations. Although this was briefly discussed for many of the individual recommendations, this question was asked once again at a broader level to
further gauge feasibility. Finally, participants were asked to provide any further comments or concerns regarding the development of the risk management strategy. A copy of the discussion guide can be found in Appendix F.

3.8.3 Data Analysis

The analysis for this phase focused on the content and comments made by participants across the recommendations. Each recommendation received at least point of critique or piece of information to consider in the latter development of the recommendations. The analysis for the focus group discussion started with verbatim transcriptions of the content. Following the transcriptions, coding took place to highlight the key barriers and facilitators for each of the recommendations. Coding of the transcriptions for the recommendations were treated discretely in order to identify unique areas of challenge specific to the implementation of each recommendation. For further analysis, the transcripts were then coded to identify salient themes found across all of the recommendations in order to establish the general types of barriers and facilitators of change within the PSNI. The data provided information that could then be incorporated into each recommendation in order to shape and improve them to the specific context and situation of the PSNI.

3.9 Ethics

Ethical approval was granted from the Trinity Health Policy and Management/Centre for Global Health Ethical Review Committee at Trinity College Dublin (reference 05/2018/02 HPM/CGH REC) and from the Head of Research Governance at University of Ulster (reference REC/18/0047) to ensure meeting all ethical guidelines from within both my home institution of Trinity College Dublin as well as in the United Kingdom, where the research was undertaken (see Appendix G). In addition, all procedures were
also subject to a rigorous internal review to meet approval from within the PSNI. This was primarily done through a vetting procedure to allow me access to the organisation and through internal security processes within various departments. The researcher was required to receive security vetting prior to starting my secondment at the PSNI and to be granted access to the internal systems, including establishing my PSNI email address. All steps of recruitment and data collection were approved by my direct supervisor, Head of Mental Health Services, as well as by the Chief Medical Officer at PSNI.

While the PSNI does not have an internal ethics committee, the researcher worked alongside Human Resources, Corporate Communications and Establishment and Structures to ensure all areas of my work were within PSNI regulations. GDPR guidelines were strictly adhered to and ensuring anonymity and confidentiality of the data was held in the highest of priorities. This was particularly important due to the security threat against the population studied.

Data collected from the preliminary interviews and focus group discussions continues to be safely stored in a locked cabinet. The transcripts and recordings are stored on a password protected computer, in a password protected file, with the transfer of this data from one computer terminal to another (via email or USB) strictly prohibited. Data from the survey is also kept on an encrypted and password protected laptop, in a password protected file, which is stored in a locked cupboard. Hardcopy records are stored under lock and key throughout the duration of the study. Upon completion, all records will be stored securely at Trinity College Dublin and all data collected will be permanently and irreversibly deleted from the laptop used for this study.
Chapter 4: Results of Systematic Review and Preliminary Interviews

4.1 Chapter Outline

This chapter presents the findings of the systematic literature view and preliminary interviews conducted with key stakeholders within the PSNI, as the first and second phases of this research. The systematic literature sought to gather information about the general risk factors identified across the literature for police personnel and how these impact on adverse mental health outcomes – namely depression, anxiety, PTSD and burnout. A total of 20 articles included in the systematic literature review, conducted in a range of countries and contexts. In contrast, the preliminary interviews were conducted to gain specific insight into the stressors associated with the PSNI and the experiences of PSNI personnel.

The preliminary interviews thus provided valuable insight into the conditions of policing in the context of Northern Ireland. Together, the systematic review and preliminary interviews provided in-depth knowledge of both the general psychological risk factors surrounding policing and the unique risks associated with the PSNI. Results were therefore used to derive a theoretical framework which seeks to explain mental health outcomes among police officers in Northern Ireland and was used to inform the design of phases three and four of this study.

1) The knowledge gathered from systematic review contributed to answering the first research question, “What are the most common risk factors for adverse mental health for police among the extant literature, as well as the context-specific risks for PSNI personnel?” While the information gathered during the preliminary interviews aided in answering research question two, “What are the context-specific stressors for the Police Service of Northern Ireland?”
4.2 Results and Findings

4.2.1 Systematic Literature Review Results

As reported in section 4.5.2 and summarised in Figure 4.1, a total of 414 articles were ultimately identified in the search, of which 207 duplicates were removed, 130 were excluded at title and abstract phase, and 57 at full article review stage. This resulted in the final inclusion of 20 articles. Of the 20 articles included in the systematic literature review, 85.0% (n = 17) were cross-sectional and three were prospective, longitudinal designs. All but two articles included both male and female participants, with a total of 6,160 participants ultimately included across the 20 studies (Appendix H). The reviewed studies covered a range of police forces globally, with one-third of the studies conducted in the United States, one-third conducted across countries in Europe, and the remaining one-third from other parts of the world.

Figure 4.1
Systematic Literature Review PRISMA Diagram
Thirty-five percent \((n = 7)\) of articles in the systematic literature review included measures of depression, 15.0\% \((n = 3)\) included measures of anxiety, 60.0\% \((n = 12)\) included measures of PTSD, and 35\% \((n = 7)\) included measures of burnout. Several of the articles also included risk factors for multiple outcome measures of adverse mental health. For each adverse mental health outcome, a classification exercise was conducted to categorise the relevant risk factors based on them belonging to one of three domains of stress (individual, organisational, and operational). The categorisation was based on the nature of each of the risk factors identified throughout the studies. A complete summary of the various adverse mental health outcomes (anxiety, depression, PTSD and burnout) and the categorised risk factors from across the 20 studies of the literature review is outlined in Table 4.1.
<table>
<thead>
<tr>
<th>Mental Health Outcome</th>
<th>Individual Factors</th>
<th>Organisational Factors</th>
<th>Operational Factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Depression</td>
<td>Female; higher BMI score; single or divorced; neuroticism, introversion, conscientiousness &amp; lack of agreeableness; poor sleep quality; lack of social support; loneliness; problem focused coping, passive coping &amp; avoidance</td>
<td>Reduced decision making; lower reward opportunities; higher job demand; perceived control; poor relationships with colleagues; length of employment</td>
<td>No measures of operational risk</td>
</tr>
<tr>
<td>Anxiety</td>
<td>Being female; low emotional stability; introversion, neuroticism &amp; lack of agreeableness</td>
<td>Low social support at work; high effort and low reward; lack of commitment</td>
<td>No measures of operational risk</td>
</tr>
<tr>
<td>PTSD</td>
<td>Being female; lack of agreeableness, introversion, neuroticism, &amp; conscientiousness; negative affect; comorbidity of depression; low self-reliance, self-resilience, and self-worth; low benevolence; passive coping, emotional coping &amp; avoidance; lack of social support; being single or divorced</td>
<td>Lack of control; commitment; higher job stress; lack of preparatory and follow up sessions; high workload; job duration</td>
<td>Increased exposure to traumatic events; being ambushed or intentionally injured while on duty; direct life threat; killing someone in the line of duty</td>
</tr>
<tr>
<td>Burnout</td>
<td>Having romantic partner; neuroticism, extraversion, agreeableness, openness &amp; conscientiousness; negative coping techniques; lack of social support</td>
<td>High demand, high effort &amp; low reward; over commitment; inflexible working hours; perceived unfairness; work-family conflict; role ambiguity; work overload; low organisational, colleague &amp; supervisor support; feeling frequently overwhelmed</td>
<td>Working as an agent; frequent exposure to crimes against children</td>
</tr>
</tbody>
</table>

Table 4.1

*Risk Factors Identified by Domain of Stress*

### 4.2.1.1 Depression

Several individual and organisational risk factors were found to be associated with depression. In terms of individual factors, being female was associated with depression...
across various studies. For example, among officers who work as Child Abuse Investigators, women were found to be more than twice as likely to experience depression compared to their male colleagues (Tehrani, 2016). Violanti (2011) also identified physical health as a risk-factor associated with depression, finding that men and women with higher BMI scores also had higher depression scores. Personality traits of neuroticism and introversion were also found to be associated with depression among the police (Garbarino et al., 2013). Similarly, Andrew (2013) found that neuroticism, introversion, conscientiousness, and lack of agreeableness were positively associated with depressive symptoms. Sleep quality was shown to be strongly associated with depression for both male and female officers, with findings indicating an inverse relationship between sleep quality and depressive symptom scores (Slaven et al., 2011).

Social support was also found to play a significant role in predicting depression in police. Officers who were of lower social standing in their community and amongst their friends, who reported less support from superiors and increased loneliness, were at a higher risk of depressive symptoms (Habersaat et al., 2015). Andrew et al. (2013) and Habersaat (2015) both found that certain types of coping (problem focused coping, passive coping and avoidance) were associated with depressive symptoms. Two of the included studies (Komarovskaya et al., 2011; Violanti et al., 2011) identified relationship status as a significant predictor of depression, with higher depression scores among single or divorced officers.

Among organisational factors, a reduced ability to make decisions, lower reward opportunities, higher commitment, higher job demands, and poorer relationships with colleagues were all found to be associated with increased depressive symptomatology. Garbarino et al. (2013) found a positive association between length of employment and depression. Organisational commitment was inversely associated with depression and
perceived control in the workplace was also significantly inversely associated with depression (Andrew et al., 2013). While the depression articles did include individual and organisational risk factors however, none assessed operational risk factors as a risk factor for depression. However, it should be noted that two of the studies (Garbarino et al., 2013; Tehrani, 2016) had populations from specific operational roles, however there were not specific measures of operational risk included in these studies.

4.2.1.2 Anxiety

The three articles that included measures of anxiety also included measures of depression, and many of the risk factors associated with depression were also associated with anxiety. Individual risk factors for anxiety included lower emotional stability, and the personality traits of neuroticism (Tehrani, 2016), as well as introversion, being disagreeable, and conscientious were significantly associated with symptoms of anxiety (Andrew et al., 2013). Organisational risk factors included lower support, lower reward and higher effort (Garbarino et al., 2013).

In terms of coping strategies, cognitive restructuring and active coping were inversely associated with anxiety (Andrew et al., 2013). The hardiness factor of challenge, whereby officers see challenges as opportunities to grow, was also significantly associated with lower anxiety for men. Commitment (finding purpose and meaning in stressful events) was inversely associated with anxiety for both men and women. Similar to depression, it was found that female officers who work as Internet Child Abuse Investigators (ICAi) were more than twice as likely as their male colleagues to experience anxiety (Tehrani, 2016). The articles included in the category of anxiety primarily focused on the individual risk factors, particularly personality, and some areas of organisational risk. There were no operational risk factors found in the included articles. Similar to the articles on depression, it should be noted that two of the articles in
this review (Garbarino et al., 2013; Tehrani, 2016) had populations that were based in specific operational roles, however these operational roles could not compared against other roles to identify if they presented as operational risk factors in predicting levels of anxiety.

4.2.1.3 Posttraumatic Stress Disorder

Posttraumatic stress disorder was the most commonly measured mental health outcome across the studies, with a total of 12 articles assessing the various risk factors of PTSD for police officers. These 12 articles, in combination, covered all three domains of risk: individual, organisational and operational. For individual risk factors, sex, number of children, personality type, coping mechanisms, and social support all impacted outcomes of PTSD. A majority of the studies included sex differences for risk factors. One study on specialist ICAI officers found that being female predicted PTSD (Tehrani, 2016). Another study (Marchand et al., 2015) identified that number of children was positively associated with more severe symptoms, but only for men with more than one child.

There were some differences between male and female officers with regards to personality type as a risk factor for PTSD. Agreeableness and extraversion were found to be inversely associated with PTSD symptoms across both sexes (Andrew, et al., 2013). In addition, extraversion was identified as being negatively correlated with PTSD for both men and women officers (Tehrani, 2016). Conscientiousness was significantly associated with PTSD symptoms, but only among male officers (Andrew et al., 2013). Additionally, neuroticism was identified as a significant predictor of PTSD from three studies included in this review (Howsare et al., 2013; Tehrani, 2016c; Violanti, 2011). For women, openness was associated with PTSD symptomology and the sex interaction was significant (Andrew et al., 2013). Negative affect was shown to be significantly and positively associated with PTSD symptom severity (Maia et al., 2011). Two studies (Maia
et al., 2011; Martin, Marchand, Boyer, & Martin, 2009b) measured for peri-traumatic dissociation. These studies found peri-traumatic dissociation to be a very strong predictor of PTSD for police officers involved in a critical incident. More specifically, the impact of dissociation on PTSD symptoms was intensified for those with higher negative affect (Maia et al., 2011).

It was also identified that depression, lower self-reliance, and low levels of resilience were all strong predictors of PTSD symptoms (Lee et al., 2016). Another study found that officers who met the criteria for a diagnosis of PTSD were four times more likely to have a depressive disorder (60% vs 15%) (Martin, Marchand, & Boyer, 2009). Additionally, higher self-worth and greater assumption of benevolent world (a world which is kind) were both associated with lower levels of PTSD symptomology for police officers (Yuan et al., 2011).

Two studies included the personality measure of hardiness, which relates to the amount of resilience an individual has, both finding that hardiness was significantly associated with PTSD. The first found that the hardiness dimension challenge – or the opportunity for personal growth after experiencing a stressful event (Bartone, Roland, Picano, & Williams, 2008) - was associated with PTSD symptoms for men but not women (Howsare et al., 2013), while the second found that challenge was associated with full and partial PTSD symptoms (Martin et al., 2009b). Conflicting results were found for both the control (believing you can manage stressful events) and commitment (finding meaning and purpose in stressful events) components of hardiness. Andrew et al. (2013) identified that control and commitment were inversely associated with PTSD symptomatology, while Martin et al. (2009b) found no association with the dimensions control and commitment.
Several articles included coping strategies as a dimension of individual risk. Passive coping and avoidance were associated with PTSD symptoms, where the association for women was significantly stronger than for men (sex interaction $p = 0.03$) (Andrew et al., 2013). Additionally, it was identified that the more officers resorted to emotional coping strategies to deal with stress, the more likely they were to develop symptoms of PTSD (Marchand et al., 2015). Social support appeared across the literature as a protective factor against the development of PTSD and other adverse mental health outcomes. For example, lack of social support and being single or divorced was found to be a significant predictor of PTSD (Komarovskaya et al., 2011), while higher levels of social support were associated with lower levels of PTSD symptoms (Maia et al., 2011; Martin et al., 2009; Yuan et al., 2011).

Although the majority of the articles that were included for PTSD discussed various individual risk factors, many articles also identified organisational and operational stress. The review identified only a small number of articles that included organisational risk factors for the development of PTSD. One study of male officers found that higher job stress was linked to higher levels of PTSD symptoms (Lee et al., 2016). One study looked at “high risk” and “low risk” clusters of officers, where the “high-risk” cluster was characterised by lower social status, decision latitude, support, and problem focused coping, as well as higher loneliness. The study reported that community division officers in the “high-risk” category were at an increased risk of posttraumatic stress symptoms (Habersaat et al., 2015). Conversely, regular preparatory and follow up sessions – a crucial area of training and debriefing for policing - were found to reduce posttraumatic stress (Ellrich & Baier, 2017).

The operational risk factors included for PTSD covered both general operational risk of policing as well as specific critical incidents. Several studies (Hartley et al., 2013;
Maia et al., 2011; Yuan et al., 2011) identified the number of traumatic events or frequency of critical incident exposure as a significant predictor for the development of PTSD among police officers. Two of the three studies that accounted for frequency of exposure included role-specific police populations. For early career police officers, less cumulative critical incident exposure over the first two years of service was correlated with lower PTSD symptoms (Yuan et al., 2011). For female officers, particularly those with a high workload, a positive relationship was found between frequency of traumatic events and PTSD symptoms (Hartley et al., 2013). However, this same study identified female officers who had no prior trauma exposure but who witnessed ‘abused children’ or ‘homicide victims’ on the job were at the highest risk of developing PTSD symptoms.

Job duration was found to significantly predict PTSD symptom severity (Maia et al., 2011). A more detailed study on PTSD severity found that police officers with partial PTSD had significantly more years of experience than officers without PTSD (2009b). Additionally, in comparison to officers without PTSD, officers with partial PTSD were significantly more likely to also have substance-related disorders (22% vs 1%) and major depressive disorder (44% vs 15%).

Three included studies further accounted for specific types of critical incidents that officers may be exposed to. Firstly, a study on officers following violent assaults, found that being ambushed, as well as taking more time off work, and being intentionally injured while on duty, had increased posttraumatic stress symptoms (Ellrich & Baier, 2017). The second study identified that female officers who had been involved in a shooting had higher PTSD symptom scores compared to males (Hartley et al., 2013). Third, exposure to direct life threat was found to be a significant predictor of PTSD (Komarovskaya et al., 2011). This same study also found that killing or injuring someone in the line of duty was associated with PTSD symptoms.
4.2.1.4 **Burnout**

Several of the seven studies on burnout included individual risk factors and two included operational risks. Due to the nature of burnout, the majority of the risk factors for burnout analysed by these studies focused on organisational risks. Three of the articles (De la Fuente Solana, Aguayo Extrémera, Vargas Pecino, & Cañadas de la Fuente, 2013; Garbarino et al., 2013; Kumar & Kamalanabhan, 2017) assessed risk factors in relation to the three specific dimensions of Maslach’s Burnout Inventory (emotional exhaustion, depersonalisation and personal accomplishment) individually.

The first dimension of Maslach’s Burnout Inventory (MBI) examines *emotional exhaustion*. Garbarino et al. (2013) found that high demand, effort and over commitment, as well as low reward, were associated with *emotional exhaustion*. In a second study, inflexible working hours, perceived unfairness, work overload, role ambiguity, as well as work-home interference, work-family conflict, and family-work conflict were all associated with *emotional exhaustion* (Kumar & Kamalanabhan, 2017). The third study (De la Fuente Solana et al., 2013) identified two individual risk factors: 1) police officers with romantic partners had significantly higher scores of *emotional exhaustion* than police officers without partners, and 2) the personality traits of neuroticism, agreeableness, conscientiousness and extraversion were all significantly correlated with *emotional exhaustion*.

*Depersonalisation* is the second domain of MBI, defined as the development of negative feelings and attitudes towards both work colleagues and the individuals that officers assist (Maia et al., 2011). Several protective factors for this domain were identified including: having children, friendliness, emotional stability, control, support, and reward (Garbarino et al., 2013). Additionally, over commitment and effort were both identified as risk factors of burnout. Similar to *emotional exhaustion*, the organisational
Risk factors of burnout for *depersonalisation* include perceived unfairness, inflexible work hours, role ambiguity, and work-family conflict (Kumar & Kamalanabhan, 2017). In contrast, De la Fuente Solana et al. (2013) found no significant differences between work-related variables, with the exception of officers with partners having higher burnout scores. This study also found several personality variables that were significant and consistent with *emotional exhaustion*: neuroticism, agreeableness, conscientiousness and extraversion.

The final dimension of the BMI is *personal accomplishment*, where in contrast to *emotional exhaustion* and *depersonalisation*, lower scores are associated with higher levels of burnout. It was identified that inflexible working hours were most strongly associated with this component of burnout, followed by family-work conflict, perceived unfairness, work-family conflict, role ambiguity, and work overload (Kumar & Kamalanabhan, 2017). One study identified that officers between the ages of 45 and 50 had much lower scores on *personal accomplishment* than those between 25 and 30 or between 40 and 45 (De la Fuente Solana et al., 2013). Also, police officers without children and without partners obtained higher scores, as did officers with less than ten years of experience.

Various risk factors were also identified outside of the MBI. Three articles analysed individual risk factors, including a study of Internet Crimes Against Children (ICAC) taskforce, which found that having a strong support system outside of the workplace and using positive coping techniques mitigated the risk of burnout (Brady, 2016). Another study by Tehrani (2016c) conducted on a similar police population found that neuroticism significantly predicted burnout. All five personality factors of the NEO-FFI (Costa & McCrae, 2009) were significantly correlated to burnout, whereby neuroticism was directly correlated and extraversion, openness, agreeableness, and conscientiousness
were all inversely correlated (De la Fuente Solana et al., 2013). Similarly, a second study found that all of the personality variables on the Big Five Questionnaire (conscientiousness, extraversion, friendliness, openness, and emotional stability) positively predicted the personal accomplishment component of burnout (Garbarino et al., 2013). The final article to include personal risk factors (Fyhn et al., 2016) found that hardiness-commitment, social support, marital status, work engagement were the only variables that significantly predicted burnout.

More than half of the studies identified low organisational support as a risk factor for burnout (Brady, 2016; Fyhn et al., 2016; Garbarino et al., 2013; Kumar & Kamalanabhan, 2017). Social support, both outside of work and at work, was found to be significantly negatively associated with burnout across four of the studies. One study of police investigators (Fyhn et al., 2016) and a similar study on ICAC (Brady, 2016) found that low social support from colleagues and supervisors (i.e. low organisational support) was significantly associated with higher levels of burnout. Informed by the Demand Control Support model, one study found that ‘support’ was negatively associated with burnout, but solely in the depersonalisation domain of the MBI (Garbarino et al., 2013). A similar study by Kumar and Kamalanabhan (2017) found that work support was significantly and negatively associated with burnout across all three domains of MBI. In addition to social support in the workplace, frequently feeling overwhelmed, inflexible working hours, perceived unfairness, work overload, role ambiguity and low work engagement were all associated with an increased risk of burnout (Brady, 2016; Fyhn et al., 2016; Kumar & Kamalanabhan, 2017).

Although both organisational and operational stress have significant effects on burnout (Kula, 2017), fewer operational risk factors were outlined in the articles included in this review. Only three articles included measures for the operational risks of burnout.
One study found that officers working as agents were at a higher risk of MBI’s professional exhaustion, when compared to supervisors or technical staff (Garbarino et al., 2013). For the ICAC taskforce, frequent indirect exposure to crimes against children was associated with higher rates of burnout (Brady, 2016). The final study identified that organisational stressors had more influence in determining rates of burnout among the police force than operational stressors (Kula, 2017).

4.2.2 Systematic Literature Review Findings

In light of the lack of evidence investigating how specific individual, organisational and operational risk factors are associated with adverse mental health outcomes among police officers, this review systematically investigated various adverse psychological outcomes as a result of working as a police officer across these three domains of risk. While all of the articles included assessments of individual risk, and more than half assessed organisational risk factors, far fewer included variables on operational risk factors.

Several patterns of individual risk factors emerged across the various adverse mental health outcomes for police personnel. These included being female, lack of social support, certain personality types, and negative coping styles. These individual risk factors mirror those commonly identified throughout the broader literature on mental health (Carlson et al., 2016; de Graaf et al., 2002; Javidi & Yadollahihe, 2012; Schnurr & Vielhauer, 2000). Consistent with previous findings, being female was found to be a risk factor for adverse mental health outcomes, an association which consistent for both policing and non-policing populations (Bramness, Walby, Hjellvik, Selmer, & Tverdal, 2010; Carlson et al., 2016; Fuhrer, Stansfeld, Chemali, & Shipley, 1999). Social support from friends and family was also found to mitigate against adverse mental health outcomes, consistent with long-standing evidence from both the general population and policing populations that social support is associated with positive well-being and a

The personality traits of neuroticism and introversion were found to be consistent risk factors of all adverse mental health outcomes. Negative coping styles such as passive coping or avoidance, as well low social support, were also found to be positively associated with each mental health outcome. These findings are congruent with previous studies on policing and non-policing populations (Evans et al., 2013; Hart & Wearing, 1995; Jenkins, Allison, Innes, Violanti, & Andrew, 2019; Macía, Gorbeóa, Gúmez, Barranco, & Iraurgi, 2020), which have established neuroticism, introversion, and maladaptive coping styles as well-known risk-factors for multiple types of negative mental health outcomes.

Other individual risk factors known to play a role in mental health include history of childhood trauma, bereavement of a close relative, or financial difficulties, have also all been shown to play an important role in mental health outcomes (Asmundson & Stapleton, 2008; Chopko & Schwartz, 2013; Follette et al., 1994; Habersaat et al., 2015). However, none of the included studies accounted for these factors in their analyses, representing an important gap in the extant literature.

Whereas previous research has focused primarily on the operational stressors associated with policing, recent advances in the field suggest that organisational stress may be just, if not more, impactful on mental health (Moon & Jonson, 2012). The most common organisational risk factor identified in the systematic review is social support from colleagues, which was identified as heavily influential on mental health outcomes, increasing the risk of poor psychological outcomes. Likewise, a lack of social support at work, as well as from family and friends, was positively associated with adverse mental health outcomes.
Other factors include, high effort and low reward, which appear to predict higher levels of anxiety, depression, and burnout, while lower decision latitude and greater loneliness predict PTSD. Depression was also identified as a risk factor for PTSD, suggesting that results should be interpreted in light of potential comorbidities. Officers suffering from burnout tend to point towards organisational stressors, including work demands and resources, as the source of their problems (Kohan & Mazmanian, 2016; Martinussen et al., 2007). The role of organisational stressors in predicting adverse mental health outcomes among police officers is consistent with work of Toch (2002), who found that top-down management practices and departmental politics were more stressful than the many operational stressors encountered routinely by police.

The organisational stressors findings presented in this review are consistent with the Demand-Control-Support Model in section 2.6.2.1, whereby high demand and lack of control in one’s job can lead to an increased risk of poor psychological outcomes. However, social support has been identified as a protective factor and acts as a buffer against the risks presented by high demand and low control such that social support appears to moderate the relationship between environmental and genetic vulnerabilities and adverse mental health (Ozbay et al., 2007). The identification of organisational factors as being more stressful compared to operational factors may be because police personnel are aware of the risks associated with the occupation when starting their career. In contrast, they are often unprepared for the organisational stressors they may face, which in turn, may impact on their mental health outcomes.

PTSD appears to be the mental health outcome most strongly associated with operational risks, where the frequency of traumatic events was found to be a significant predictor for PTSD across various studies (Davidson, Hughes, & Blazer, 1991; Wrenn et al., 2011). However, previous research also supports the resilience perspective, whereby
positive coping strategies for previous traumas can build resilience and act as a protector of PTSD in future traumas (Hartley, Sarkisian, et al., 2013; Shing, Jayawickreme, & Waugh, 2016). The cumulative impact of traumatic exposure is therefore an important area for future study within the policing literature. Similarly, certain types of trauma may have a larger impact than others. For example, when an officer is involved in a violent incident where there is potential for serious harm or direct life threat, such as being ambushed or being involved in a shooting, the risk of PTSD increases, as does the severity of symptoms (Ellrich & Baier, 2017; Hartley et al., 2013; Komarovskaya et al., 2011).

Frequent indirect exposure to crimes against children was the only operational risk factor identified for burnout. Overall, organisational stressors appear to have a much larger influence on rates of burnout than do operational risks. However, it must be noted that minimal operational risk factor variables were included in the studies of this review. Future consideration should therefore be given to the various sources of operational stress for police, as well as the type of traumatic events experienced, the severity of the event and the cumulative impacts of trauma exposure. The theory of Police Complex Spiral Trauma (Papazoglou, 2013) and the Critical Incident History Questionnaire (Weiss et al., 2010) takes these factors into account, acknowledging the unique nature of operational policing risks.

The number of articles included for each of the mental health outcomes reflects that the focus of recent research in the area of police mental health has mostly been concentrated around PTSD. It is apparent that the individual, organisational and operational risk factors all impact, to some extent, psychological outcomes of police officers, and that the psychopathology of police personnel is multidimensional and interactional across these domains. The extent to which each domain contributes to the
risk of individual adverse mental health outcomes (anxiety, depression, etc.) however seems to vary across the literature. For example, PTSD appears most frequently associated with the operational risk factors, whereas burnout is most associated with organisational stressors. To best understand adverse psychological outcomes of police it is thus essential to consider the various sources of stress and risk, as outlined in this review. Not only are police exposed to various critical incidents, but they are also subject to the stressors of working in a high-stress environment. Overall, social support was identified as a key protective factor to improve resilience among police.

The development of an initial theoretical framework for this study was created based on the findings from the systematic literature review and is depicted in Figure 4.2.

Figure 4.2

Theoretical Framework Model Developed From the Systematic Literature Review
4.2.3 Preliminary Interviews Results

There were several commonalities and themes that emerged throughout the interviews. The four main, interrelated themes that emerged around organisational stressors were 1) austerity, 2) workload, 3) problems with management and 4) feelings of underappreciation or being unimportant to the organisation. Although these were identified as discrete themes for the analysis, there was much overlap between the themes throughout the transcripts, many of which centred on the consequences of austerity measures facing the PSNI.

Participants also discussed their individual operational roles and the stress involved with the job. While the majority of the stressors that officers and staff disclosed centred around themes that focused on working for the PSNI as an organisation, two additional themes also emerged: 1) exposure to interpersonal trauma and 2) unique stress of the post-conflict setting. Participants discussed how the PSNI is unique in its high risk of terrorist threat against officers and the personal implication this has for the families of police officers. Many participants commented on how their work has impacted on their mental health. In total six main themes were identified from the preliminary interviews depicted in Figure 4.3. Finally, despite the challenges of working for the PSNI, all participants indicated that they had an overall positive experience working for the organisation and were proud to be in their job.

Figure 4.3

Identified Themes from Preliminary Interviews
4.2.3.1 Austerity

The most prominent of all the themes was that of austerity, with all five participants making a point to discuss how the PSNI is unable to provide adequate funding and resourcing for PSNI personnel, equipment, and trainings. As Participant 2 explained, “there isn’t enough police officers on the ground in front line policing... that would be the biggest issue and that obviously then ripples into having lots of different impacts throughout the organisation”. Likewise, Participant 1 explained that austerity measures also meant less training or opportunities for career development within the PSNI:

"There are so many financial restrictions in the organisation at the minute that everything is money based. So career development isn’t that important to them. They talk the talk but they don’t walk the walk. So what they do... is they say they want to do this for you... make your working conditions so much better but that will cost money because you’ve got to put people on a course and if you put people on a course it’s going to cost money... its distraction time for the officers themselves, so that’s wages and then they have to pay backup so they can do the job while they’re away... so they don’t want to put people on courses anymore and they only put people on courses that they actually have to be – if it’s a mandatory requirement (Participant 1)"

Measures of austerity adopted by the PSNI, and especially reductions in personnel numbers, were viewed as the primary cause of stress and problems within the organisation. As expressed by participant 3, “The PSNI is struggling because of the financial restraints put upon it at the minute and that’s had a very negative effect on all the staff... A lot of the problems we have at the minute are due to austerity”. A senior officer also made the point that over the years he has
seen a change in the type of stress and the impacts it has had on the police force:

“I’ve seen a change in stressors over my 27 years with the organisation. What I do see now is I see significant impact on individual front line officers – it’s now biting that deep. Where the organisation hasn’t been able to buffer through effective changes or realignment changes. Previously there has been a buffer to frontline officers”. All of the participants highlighted the challenges faced by PSNI personnel as a result of austerity:

_Probably the biggest impact [of austerity] would be a reduction in numbers. More and more often we are finding that you’re operating on minimum staff levels and that creates difficulties to get time to do inquiries, time to do investigative activities, time to get paperwork done. It’s not about the workload today but the cumulative workload with the reduction in numbers_ (Participant 4)

_When I started there were 15 mappers in the mapping section and we are now down to 7 or 8 and the workload has constantly gone up. We have far more work than we ever did with a lot less staff and that’s stressful on its own_ (Participant 3)

The austerity faced by the PSNI has led to a range of implications, some of which include the subsequent themes identified in this analysis. Due to diminished resourcing, the number of personnel has been reduced, increasing the workload of current staff and officers.

### 4.2.3.2 Workload

The loss of personnel resulted in an increased workload for many of the officers and staff, with this increase in workload seen as exacerbating the pressure on PSNI employees and significantly impacting on their stress levels. This is exemplified in a comment from participant 4 who stated “Low resources and finances really compound the pressure and workload on officers...”

When describing workload, it may transpire in two ways: the actual number of live cases that some officers and staff are working or for other police personnel, particularly front-line policing, workload is often embodied as overtime:
Okay, so probably the biggest one [stressor] would be overtime because there is a lack of officers in all sorts of departments but especially front-line police. People are stuck doing a lot of overtime... full time officers are detailed overtime and very often, more often than not, don’t get a day off (Participant 2)

Four out of the five participants indicated that the workload they had was unsustainable and compounds the pressures of the job. One participant, who was of a higher-rank, felt that although workload was not a large stressor in their role, this participant was aware that other officers struggle to keep up with the workload, particularly those in frontline policing, who have to handle a large amount of paperwork. The increased demands on police officers also meant that officers had less time to address or practice self-care in the event of repeated operational stressors:

The workload is unsustainable... Sometimes you don’t even recognise that its [the work] having an effect on you. It’s difficult when you don’t get that downtime. It’s impossible to fully process and there is too much to do and it doesn’t ever go down. You’re constantly getting bombarded with requests from supervisors or solicitors or whoever... (Participant 5)

Comments around the impact of workload on family life was also highlighted by participants, with Participant 5 explaining that “Because we don’t get downtime in the job and you’re so busy with family life and everything else, you don’t get downtime outside of that” and Participant 3 stated “The commitment we had to give was very onerous because it’s not just you that has to be involved, it’s your family. They expect you to go out and respond immediately so there are restrictions put on you and your family and your lifestyle.”

4.2.3.3 Management

Four of the five participants included problems with management as one of their top organisational stressors. Participants disclosed that they often have poor relationships with management and that many line managers were not viewed as ‘looking out for their teams’. Participant 1 stated “Management are only about looking after themselves. Poor management. There is no management or leadership...” Participant 3 echoed this
concept, stating that “He [the head of branch] seems to be only interested in his own career. They couldn’t give monkeys about the staff.”

There is also a lack of trust in higher management with many participants believing that line managers are solely focused on advancing their own careers, particularly among those higher up the ranks:

*The higher up the ranks you get the more they want to look after themselves and they use the lower ranks as their pawns to get themselves to be able to build a portfolio. So, they change something that doesn’t need to be changed but they can then put it in their portfolio for the promotion board* (Participant 1)

*My immediate management is great, the manager at CSI [Crime Scene Investigation] is great. Perfect example of the managers you need and they will tell you straight if they can or can’t do something. Once it gets to the level of senior management, a lot of the problems we have are exacerbated by them* (Participant 3)

However, it was also stated that some participants felt that their experiences with direct line management were positive and that the managerial problems primarily stemmed from high ranking officers and staff in senior management. As participant one explained, “I wouldn’t trust anyone above the rank of inspector... There are very few with the rank of inspector or above who can be trusted or who behave in a fair manor.” Participant 3 also shared a similar view, stating, “A lot of the stress that comes my way that I can recognise is managerial... Any time we have to deal with senior management to sort out issues it’s a battle”. The only individual who did not comment on the stress of management was a higher-ranking officer who managed his own team.

Participant 3, who is a civilian staff member and works alongside police officers, often sharing the same exposures and stressors of the job, felt particular stress with management in regard to not being treated equally to officers. This participant explained the discrepancy in pay for PSNI staff versus officers and the negative experiences of higher management in this circumstance:
Anytime we try to raise issues, instead of thinking ‘yes let’s hear what you have to say and let’s look at that’, everything is a ‘no’. We ended up in industrial action because of it. Because we were given £4.90 for a night on call – so for 16 hours on call you got £4.90. We were looking at the industry and our forensic colleagues and they negotiated £36 per night and on top of that if they’re called out there is a call out fee of £60 something. So, when they were walking under that crime scene tape they were earning around £100 and we were getting £4.90. So, we tried to raise the issue with our boss and HR and hit a brick wall. It wasn’t even a case of we will look at it, it was a flat no and that is typical of all our dealings with HR [Human Resources] and top management. Everything is a fight and it shouldn’t be a battle; we should be working together... (Participant 3)

Overall, the participants described their dissatisfaction with management and highlighted that the organisation needs to be better managed in order to support its staff. As expressed by Participant 2, “If the organisation was managed better and there was more thought and care towards the people doing the job and people were looked after it would make a big difference to people”. The perceived lack of good management has led some participants to feeling unappreciated by the organisation, as explained by Participant 5, “There is a perceived lack of support from senior management... Everybody feels undervalued by our own supervisors, not our own supervisors because we have good relationships, but once you get above and beyond, the senior person”.

4.2.3.4 Underappreciation

The fourth theme of organisational stress that participants described was that of feeling underappreciated by or unimportant to the organisation and the impact this has on the individual officer or staff member. Participant 3 explains, “the general feeling is very much that we are not recognised for what we do. There is no recognition there, it’s quite difficult when everything is a battle or a fight to even get the easiest thing sorted out. It doesn’t feel like we’re all on the same team”. This theme has some overlap with the previous themes of austerity, workload and problems with management but is unique in the personal impact that feelings of unappreciation has on officers and staff. The theme of feeling underappreciated highlighted various points. All five participants discussed this
theme of the organisation and some outlined how feeling underappreciated has impacted them personally.

The first point made by participants is that the organisation not being person-centred and does not focus on the needs of its staff and officers. For example, participant 5 stated “We are not just resources, we are people. You’re expected to just do the job and things do affect you, it doesn’t matter what role you’re in”. The link between feeling that the organisation is not focused on individuals and perceived poor management was also made:

If the organisation was managed better and there was more thought and care towards the people doing the job and people were looked after it would make a big difference to people. I can only describe it that it needs to be more personal, there needs to be more of a personal insight into their officers, into the people who work in their organisation (Participant 5)

Another point highlighted in the interviews was the there was a lack of duty of care to staff and officers by the organisation. A perceived lack of duty of care and implementing positive change in the organisation resulted in participant 2 feeling that they were unappreciated:

People aren’t getting breaks; people aren’t getting time to selfcare. And that’s important you know, people need to eat, and when you’re not doing that as a service that’s wrong, there is no duty of care. I often find the PSNI like to talk the talk but not walk the walk. They don’t back it up. They send out surveys to people to do and never any fruits of all the labour, you don’t seem to think wow look at that there has been change because of that... (Participant 2)

Similarly, participants 1 stated that there was a lack of implementing positive change for employees and this resulted in feeling that there were minimal opportunities to advance skill sets and improve performance at work:

They’ve implemented this thing, An Individual Performance Review, that you do on a 3-monthly basis, you write up all your targets and goals, but nobody pays any attention to it... As a constable or sergeant, you would do it but it’s just paying lip services. Its management just paying lip-service. It’s just them ticking a box to say they are developing your career but there is no career development. Career development isn’t that important to them (Participant 1)
Although all participants stated that they felt that organisational stressors were more challenging than the operational stressors, several key operational challenges were also outlined.

4.2.3.5 Interpersonal Trauma

The main areas of operational stress focused around those in job roles where they work directly with victims and are exposed to various traumatic situations. Each participant discussed operational stressors that were unique to their roles and experience, and the theme of both direct and vicarious interpersonal trauma was identified.

One example of trauma exposure in policing was described by participant 3, who is routinely exposed to murder scenes and suicides. A large part of this participant's job role is working directly at the crime scene and working with dead bodies. He describes the training he received to deal with the bodies of victims but also the uncertainty of how the long-term exposure may impact on him psychologically:

_The police who were training us would tell us when you see a dead body at a scene, treat it like you would treat a piece of furniture which is dehumanizing it and that’s what we did – tried not to personalise it. If you think of that as a person, and the trauma behind you’ll end up a nut case, and the thing about that is you can’t keep doing that long term. I think that it has an effect on you. So, I go to a scene to a dead body and my concern is how does that change me as a person, does it do any long-term damage that we don’t know about (Participant 3)_

Some officers face direct traumas in front-line policing, such as participant 1 who describes a public order incident, “He [rioter] was sticking his thumbs in his [colleague] eyes and biting his ears to the point where he was bleeding.” This quote references a unique public order situation related to the Northern Ireland Troubles, rioting. One major influence of the interpersonal trauma experienced by officers and staff is working in a post-conflict setting with a high threat to officers:

_When we go to a scene, we are lucky if we have 2 or 3 police in a Land Rover. You’re very much exposed. You have to be a lot more vigilant. You just have to be_
aware of your personal safety. When we are at crime scenes there is a fraction of police there than there used to be and you don’t always feel safe (Participant 3)

There are many examples of vicarious traumas that happen on the job as well. There is a unique and complexed nature to some police roles in which the officer is balancing various stressors and potentially traumatic situations while trying to do their job. As an example of this, participant 2, a response officer who responds to a large variety of calls, explains the range of emotionally demanding and interpersonal situations which have the potential to be traumatic:

*The calls you deal with, could be a wide range of antisocial behaviour, sudden death, criminal damage, domestics are another one that can be very difficult to deal with. When there are children involved and you’re having to take children off people, off one parent to give to the other, that can be tough. There are calls about neglected kids, all different types… In a way you kind of know, you don’t know what you’re going to be dealing with. You are a human being and you know what life is. You hear through different people what circumstances can happen, not everybody rings 999 so you are dealing with heavy stuff and in volume. You’re going to deal with sudden deaths and that can be quite stressful. Often times you’re going into a house and the neighbours haven’t seen the person in quite a while and you don’t know what you’re going to find and that can be very stressful. And the other side of that you have to break the news to families, and stuff like that* (Participant 2)

Participant 5 works as a child abuse investigator and is routinely exposed to neglected and abused children. This participant explains the high levels of stress associated with their job role and highlights that the vicarious trauma this participant and their colleagues experience can be challenging:

*For me personally, and I know for most of my colleagues its driving to breaking point, the pressure of the work and because it is such serious, heavy stuff we are dealing with the faith the victims are putting in you. That’s where it all comes from, that’s the majority of the stress of the job* (Participant 5)

There is a range of direct and vicarious traumas experienced by participants. For some it trauma exposure appears to be a direct result of policing on the frontline, for others it is the emotional stress and vicarious trauma of working with victims, and ultimately, there
is an element of policing in a post-conflict setting that further evokes the potential traumas of policing in Northern Ireland.

4.2.3.6 Unique stress of the post-conflict setting

In addition to the impact of policing in a post-conflict setting on trauma exposure, there are further implications to their operational work as outlined by participants. Participant 1 highlights the impact of police perception by the public eye and the fear of criticism. As a result, the fear of public perception hinders an officer’s ability to take the necessary measures on the job, potentially putting them at further risk of harm:

With regards to the job over here unique stressors really just the public perception and the stress brought about by the bosses- for example public relations – everything is the police’s fault. So, if you go to a road traffic accident, the police weren’t there on that stretch of road so it’s the police’s fault. We need a better PR system whereby we then get out there before people start blaming the police and everything. We get an additionally stressor because everything is the police’s fault... Even for public order, you see the public order officers being beaten back because they are afraid to strike. One particular case I can tell you about was with a girl wearing a body cam and her partner. And she said she was always told you can never strike someone in the head which isn’t the case, this is an Article 2 life and death situation and the stress she was feeling that she couldn’t hit this person in the head to protect herself and her partner (Participant 1)

There were several additional comments about the unique nature of working for the police in Northern Ireland. The security threat for the PSNI remains very high and as a result many officers have additional stressors and fears on the job. The terrorist threat against officers remains high and was described by Participant 1, “We have to check under our cars every time we get into the car... you have the stress of having to tell your kids lies, because what are you looking under the car for? Pussy cat... in case there is one under the car and you don’t want to drive over it where in reality you’re checking for a device [bomb] and things. So that’s one unique stressor...”

Additionally, the PSNI have a police ombudsman, an independent organisation who investigate complaints from the public against the PSNI, which presents an
additional stressor in working for the PSNI. Police and staff are at risk of physical violence, as described earlier in this chapter, as well as being at risk of having complaints put in against them, whether legitimate or not:

The other unique stressor we would have is we have an ombudsman who oversees everything we do. Where other police services don’t have that. We have a complaints procedure so you’re getting double jeopardy in our job. So, if you do something wrong outside the courts get you and the job gets you – so that’s a stressor. You could put 29 years in and be getting your pension at 30 years and you could lose it all over one thing (Participant 1)

Some areas of operational stress experienced by PSNI personnel are aligned with working in a post-conflict setting and, therefore, are likely due to the contextual aspects of policing in this environment. Additionally, working in a post-conflict setting impacts on the operational components of police work and serve as unique operational stress. One participant describes the current situation of policing in Northern Ireland, stating “There is still a severe threat around the job, no it’s not as bad as in the 70’s and 80’s, but it’s still a significant terrorist threat which impacted”. Police are often targeted and are at risk by virtue of identifying with the PSNI:

X was murdered for being a catholic police officer, X had a bomb placed underneath his car and these things are still happening in the police force and when we go out to scenes just because of the places were going, we are at the scenes and you don’t know how safe you are (participant 3)

There is a fear of being identified as working for the PSNI and this is evident in the security concerns of Participant 2 who states “People can come up with their mobile phones and that’s what you see all the time when police turn up, mobile phones are recoding and all. They can put that social media and that’s a security breach, that would be a stress for a lot of people...” Officers and staff also identified a risk to family as a result of their work and described working for the PSNI as a lifestyle, with participant 1 stating “I still believe even now that it’s a lifestyle rather than a job...” and participant 5 stating “I could not tell my children what I do because then they might tell other people”.
As a result, most officers and staff do not disclose working for the police, as this puts them at risk in their personal life as well as their work life:

When I go home you’re in that situation where you are looking under your car in the mornings. You’re so focused on the fact that has naturally developed through my career that this might happen. Where other police can’t understand that. When they’re off the job and get into their car to go home its very rare that someone would go looking for them. I’m not saying that an off-duty cop wouldn’t come across somebody but normally when they’re at home they’re at home. They’re just individuals where ours is 24 hours a day (Participant 1)

The troubles are behind us but there are still a lot of people out there who want to cause harm to police officers and police staff. That essentially effects where you can go, where you can live, where you can set up your family life, honestly it has a huge effect on people who want to do policing as their job. (Participant 2)

The vigilance is continual… The threat, not just to me but to your family. And there has been again, in my initial of my career, there were examples where family members were killed and there is still an element of that for us all. You know we’ve got frontline officers who are going out in this district and other districts with a severe terrorist threat which means that an attack is highly likely (Participant 4)

The impact of stress, both as a result of the organisation and operational capacities, as well as the context of policing in post-conflict Northern Ireland, on officers and staff can lead to adverse psychological impacts. This was recognised by several of the participant and they disclosed their concerns regarding how the job has or may impact on their psychological wellbeing:

No matter how resilient you think you are, you come home and you think you’re ok but you do bring home a lot of that emotion, you’re human and it sinks in. how you cope with it, I generally do ok but when there is your own issues that involve, everybody has them, that’s when you’re coping ability, for me anyways, diminishes. It takes a dip and I feel like I can’t cope with all of this (Participant 2)

The long-term exposure to this type of work affects you. I have a young child and I am very overprotective of him. There are times where I think would I be like this if I didn’t do this job and see the things I have seen. Would I have been like this if I had done a different job. Everyone says how can we do this for that long? We seem to be guinea pigs because no one has ever looked at what is the long-term impact of this exposure and that’s the biggest worry about it. And does anybody care? (Participant 3)
Although all participants described the stress they experienced with the job and the organisation, many stated that they felt positive about working for the PSNI. Participants pointed out that they felt very proud of the work they do and feel that they are making a difference for society. For example, participant 4 explained “I’ve had a positive experience with PSNI. There are good opportunities. A number of challenges but broadly speaking I look forward to coming to work and I take pride in my job”. Another participant also had similar feelings about working for the PSNI and said. “I do feel like I am making a difference. I am proud of what I do. I want my family to be proud of what I have done”. In addition to feeling proud of their work participants also noted that they enjoyed the work and making a difference to society:

I enjoy my job. I enjoy working with the public, I enjoy problem solving, I enjoy trying to make a difference. I do get a lot of job satisfaction. A lot of the people we encounter are repeat people you come across, customers for want of a better word... and their situations generally don’t change but if you’re making a difference to somebody on that day for whatever reason then that’s good enough for me (Participant 2)

Overall, there were several organisational themes that emerged as well as operational traumas experienced by participants. Working in a post-conflict setting also appears to create unique operational stress for the PSNI. However, despite the various challenges presented by staff and officers, the overall feeling of working for the PSNI was positive in that they were proud of their career choice and felt that working for the PSNI was a good job.

4.2.4 Preliminary Interviews Findings

The preliminary interviews concluded that there were several key areas of stress for police officer and staff. Operational and organisational stressors were outlined, where several key findings were identified. While the operational stressors and potentially traumatic situations encountered by participants varied greatly based on their role, these presented direct and/or vicarious interpersonal traumas. Across the sample, there was
consensus from participants that the main stress comes as a result of the organisation; congruent with many recent findings regarding occupational stress in policing (Deschênes, Desjardins, & Dussault, 2018; Moon & Jonson, 2012).

For organisational stressors there were four salient themes that identified the key areas of stress for employees of the PSNI. These themes were austerity, workload, problems with management and feelings of being unimportant or unappreciated by the organisation. These challenges have several repercussions for the entire workforce and their ability to maintain well-being under a large amount of pressure and stress. A study of environmental stressors in policing conducted by Deschênes et al. (2018) identified that all four of these organisational stressors negatively impacted on psychological health. This study aligns with the findings of the interviews in that budget cuts, poor managerial styles, high workload, and lack of recognition all contribute to poor mental health in the workplace.

While austerity has not been commonly researched as a stressor in the policing literature, in Northern Ireland it is a major source of stress throughout the entire organisation. Previous research has reached similar findings to these, identifying that socioeconomic factors including budget cuts, running short-staffed, and high levels of overtime can lead to adverse mental health outcomes (Deschênes et al., 2018). In addition at an organisational level, austerity can have a large influence on a police organisations’ ability to maintain standards and protect the public (Mann, Devendran, & Lundrigan, 2018). Similarly, research in other post-conflict police settings has also identified significant challenges for police forces related to austerity and low resourcing (Wozniak, 2017). Another area of stress that transcends the organisational and operational areas of risk is that of the current terrorist threat.
One of the main findings was that the security threat in Northern Ireland has a significant impact on officers and staff at the PSNI. It is not uncommon in post-conflict setting that there becomes an “us” and “them” divide between police and the public (O’Neill, 2005). This negative social image is consistent with other literature highlighting its impact psychological well-being of police (Deschênes et al., 2018). Furthermore, the threat to PSNI personnel extends beyond the individual officer or member of staff to affects their families and overall lifestyle as well. The threat against officers and their families by dissident groups remains a significant risk for the PSNI. And while threats against officers and their families do occur in various settings (McKay, 2019; Steineck, 2020) it is rarely at the level of systemic threat posed against PSNI personnel and their families. This is highly unique to the context of Northern Ireland when compared to general policing populations and essential in understanding the stress encountered by PSNI personnel.

While some of these findings are unique to the PSNI, many are also identified across the literature, both in the general working population and within policing. For example, high demand/workload is a stressors for various occupations, including policing (Kohan & Mazmanian, 2016; Leitão et al., 2018; Maslach & Leiter, 2017) and is associated with an increased risk of poor mental health outcomes (Martinussen & Richardsen, 2006; Stansfeld et al., 2011). The Demand Control Support model exemplifies the impacts of job demands, along with the amount of control an employee has in their job, on psychological well-being.

In addition, the finding that poor management acts as a key stressor for PSNI personnel is also consistent with the literature across various working populations, and has been found to lead to increased psychological risk in the work place (Skogstad et al., 2011). Reports of poor management found in this study are also reflected in other
policing populations (Mind, 2015). Additionally, previous studies on policing populations has similarly identified that management practices and department politics were more stressful than the various traumatic exposures and stressors that officers face operationally (Toch, 2002). As outlined in in social theories of trauma, a traumatised organisation often displays a lack of safety in the workplace, loss of emotional management, dissociation and organisational amnesia, organisational miscommunication, increased authoritarianism, increased aggression, and disempowerment or learned helplessness (Bentovim, 1995). The preliminary interviews suggest that the PSNI have many of the characteristics of the traumatised organisation. Specifically, the preliminary interviews highlighted how management at the PSNI does not care for the employees well-being, aligning with a loss of emotional management; there is a lack of safety in the workplace, both physically and psychologically; there is increased authoritarianism throughout the rankings; there are large challenges with communication in the service, particularly with higher rankings and Human Resources; and disempowerment of staff and officers.

The difficulties of organisational and operational stress appear to have a significant impact on officer and staff psychological well-being. There is a fear of how this type of work, with its high levels exposure to traumatic material and the heavy burden put on staff and officers, impacts on psychological well-being. The lack of time to defuse from each case due to the high workload appears to have implications for PSNI personnel. Self-care is highly important in professions with high rates of trauma exposure and most personnel do not feel they have adequate self-care. Despite the various challenges faced by PSNI personnel, there is a strong feeling of being proud to be in the service and that individuals like to help the community.
4.3 Outcomes

Together, the systematic literature review and the preliminary interviews aided in the development of the study’s theoretical framework and served to inform the development of the PSNI survey, as part of phase three. Figure 4.4 shows the adapted theoretical framework as a result of the findings from the preliminary interviews. The addition of context-specific risks for PSNI personnel, both falling under the organisational risk domain, were included in addition to the general stressors identified from the systematic literature review.

Figure 4.4

Adapted Theoretical Framework Adaptation From Preliminary Interview Results

Note: bold-font risk factors are the final additions to the theoretical model based on results from the preliminary interviews

The key areas of individual stressors that were included in the survey as a result of conducting the systematic literature review include measures of social support, coping styles, personality type. As a result, the decision was made to include the Survey of Perceived Organisational Support, the Brief Cope Inventory and the Ten Item Personality Inventory were both included on the survey tool. Within the interviews, the impact of
work on family life was raised on various occasions as well as trauma exposure. Consequently, a modified Life Events Checklist and Adverse Childhood Experiences Questionnaire were adapted for inclusion on the questionnaire.

Both the systematic literature review and the preliminary interviews indicated that the most significant risk factor for poor mental health outcomes was organisational risk. For this reason, a comprehensive data collection tool produced by the Health and Safety Executive, which covers various areas of organisational stress from workload and deadlines to relationships at work and support, was taken forward in the survey. Additionally, both the systematic literature review and preliminary interviews point towards organisational support as a risk/protective factor for the development of adverse psychological outcome. To cover this aspect of risk the Survey of Perceived Organisational Support was included in the survey. Additionally, informed by the findings from the preliminary interviews, a set of questions regarding PSNI-specific stressors was included. Specifically, twelve additional areas of stress – many to do with the organisational and managerial challenges of the PSNI, were included in the survey. These included items such as having been refused flexible working hours, being served with internal investigation papers, being investigated by the police ombudsman, and having to drop to half pay as a result of injury on duty.

In addition, the systematic literature review and preliminary interviews led to the development of a comprehensive list of operational stressors to be used in the survey. Designed as a checklist, the Critical Incident History Questionnaire developed by Weiss et al. (2010) was originally sourced from the systematic reviews and adapted to include particular risks associated with policing in Northern Ireland. These areas included terrorist threat, rioting, and security. Due to the nature of operational work and exposure to secondary sources of traumatic materials identified in the systematic literature review
and preliminary interviews, the Professional Quality of Life scale was also utilised. This measure covers various operational exposures to traumatic material, as well as asking questions regarding individual and organisational stress. This scale measures burnout, compassion fatigue and compassion satisfaction and focuses on an interaction of the various domains of stress.

Finally, the unique stressors of working for the police in Northern Ireland was also taken into account. As a result of the preliminary interviews, several areas of stress were identified as a result of working as a police officer or staff. A set of questions derived around security and terrorist threat were developed. This included security threats against the individual officer or member of staff, such as having to check underneath the car most days or every day and being the subject of a personal terrorist attack. Additionally, these questions included the security aspects that extended to the family and personal life of PSNI personnel, as outlined from the interviews. The addition of these risks as a separate measure was necessary, as they do not fall into the specific operational risks from the adapted CIHQ. These questions covered areas such as having to move to a new house due to being under threat and having your family being the subject of terrorist threat.

The stressors identified in the systematic literature review provided a foundation for understanding general policing stressors and risks to adverse mental health outcome. However, this phase of the study did not address the unique stressors of policing in a post-conflict setting of Northern Ireland. Therefore, the preliminary interviews addressed this deficiency in the literature and provided context-specific stressors encountered by the PSNI. These findings led to the further advancement of conceptualising risks for PSNI personnel, leading into phase three of the study.
4.4 Theoretical Framework for Study

Ultimately, the individual factors included in the study’s theoretical framework included personality, coping style, sex, children, social support and relationship status. Although not explicitly identified in the systematic literature or preliminary interviews, adverse childhood experiences and adverse life experiences were added to the theoretical framework based on the evidence surrounding the development of psychological disorders (Herzog & Schmahl, 2018; Keller, Neale, & Kendler, 2007; Mayo et al., 2017). Trauma history is often missing from policing studies, as identified in section 4.2.2., and presents a significant gap in the literature that requires further investigation. As a result, measures of Adverse Childhood Experiences and Adverse Adult Life Experiences were included in the final theoretical framework. The organisational risk in the theoretical framework included PSNI-specific stress, management, demand, control, change, role, work relationships, and organisational support. Additionally, stigma has been understudied within the extant policing literature. However, for the few studies that have included some measure of stigma, it has been identified as a significant risk factor for the development of negative mental health outcomes (Workman-Stark, 2017; (Evans et al., 2013). In order to address this further gap in the literature, the present study incorporated a measure of stigma as a form of organisational risk. Operationally, the type of trauma exposures and cumulative impacts of critical incident exposure were included in the final theoretical model.

The preliminary interviews led to the inclusion of several context-specific factors into the theoretical framework model, as well as factors identified in the broader literature which were not identified in the systematic literature review. Figure 4.5 shows the final theoretical model for this study.

Figure 4.5
Final Theoretical Framework Model

Note: bold-font risk factors are the final additions to the theoretical model based on gaps identified in the extant literature.

The resulting model is consistent with various other theories of that have previously been used to discuss mental health outcomes among police officers or other high risk occupations. These include the Cognitive Theory, Social Theory, Demand-Control-Support model (DCS model), Theory of Organisational Culture, Compassion Fatigue (CF), Police Complex Spiral Trauma (PCST), and Complex PTSD in Public Safety Populations (CPTSD-PSP). Many of these models are multi-causal and incorporate various areas of risk. However, none of the existing theories of police mental health risk include risk factors that range from the individual, the organisation and the operational components of police work. Therefore, while the previous models and theories provide conceptual knowledge of police mental health risk, the theoretical framework adapted for this study amalgamates these theories and provides a comprehensive foundation for understanding the impacts of stress and trauma on psychological outcomes for police.
Chapter 5: Survey Results and Discussion

5.1 Sample Characteristics Results

5.1.1 Individual Demographics

The majority (60.6%) of participants were male and the most common age category of the sample was 40 – 49 years old (41.9%) with a mean age of 44.07 (SD = 8.10) years. More than three quarters (77.9%) of participants were in a relationship, either married or living with their partner. Additionally, nearly a quarter of respondents (73.3%) had children, with a median number of children being 2 (SD = 0.86) and nearly half (45.4%) of children being aged 17 and older. Four-in-ten participants had obtained a bachelor’s degree, of which a quarter had also received a post-graduate or doctoral degree. An overview of individual characteristic of this sample can be seen in Table 5.1.

Table 5.1

*Individual Sample Characteristics Among PSNI Personnel*

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Mean (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (years)</td>
<td>44.07 (8.10)</td>
</tr>
<tr>
<td>Sex, % male (n)</td>
<td>60.60 (1,112)</td>
</tr>
<tr>
<td>Education, % university degree (n)</td>
<td>39.50 (720)</td>
</tr>
<tr>
<td>Relationship, % in a relationship (n)</td>
<td>77.40 (1,420)</td>
</tr>
<tr>
<td>Children, % yes (n)</td>
<td>73.30 (1,336)</td>
</tr>
</tbody>
</table>

5.1.2 Occupational Demographics

Participants included officers, ranging from constable to chief constable/assistant chief constable/deputy chief constable, and staff of various grades across all departments. In total 1,823 individuals took part, of which 1,441 were officers and 382 were civilian staff.
Of the 1,441 officers who filled in the survey, 13 were part-time Constables, 3 full or part-time reserves, 1,034 Constables, 241 Sergeants, 105 Inspectors, 30 Chief Inspectors, 11 Superintendents, two Chief Superintendents and one Chief Constable/Deputy Constable/Assistant Constable (these high-ranking positions were grouped together to ensure anonymity due to the few people in these roles). Table 5.2 provides the proportion of the force who took part in the survey and demonstrates the representativeness of the survey of the organisation (PSNI, 2020a).

Table 5.2

Proportion of Respondents From Each Rank

<table>
<thead>
<tr>
<th>Rank</th>
<th>Overall PSNI</th>
<th>Survey Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constable</td>
<td>5,202</td>
<td>1,042 (20%)</td>
</tr>
<tr>
<td>Sergeant</td>
<td>1,006</td>
<td>241 (24%)</td>
</tr>
<tr>
<td>Inspector</td>
<td>355</td>
<td>105 (29.6%)</td>
</tr>
<tr>
<td>Chief Inspector</td>
<td>94</td>
<td>30 (31.9%)</td>
</tr>
<tr>
<td>Superintendent</td>
<td>47</td>
<td>11 (23.4%)</td>
</tr>
<tr>
<td>Chief Superintendent</td>
<td>14</td>
<td>2 (14.3%)</td>
</tr>
<tr>
<td>Assistant, Deputy and Chief</td>
<td>6</td>
<td>1 (16.7%)</td>
</tr>
</tbody>
</table>

Note: officer numbers are full-time equivalent

Officers and staff across all eight branches of the organisation took part in the survey. From the Command branch there were 7 officers and 7 staff; Corporate Communications had 3 officers and 6 staff; Crime Operations had 525 officers and 84 staff; District Policing had 667 officers and 34 staff; Finance and Support had 49 staff; Human Resources had 26 staff; Legacy and Justice had 40 officers and 109 staff; and Operational Support had 209 officers and 68 staff. The distribution of participants across
the various branches is summarised in Table 5.3. More than half (57.3%) of all staff were female and just over a third of officers were female (34.1%). The 382 staff ($M = 20.49$, $SD = 10.67$) and 1,441 officers ($M = 16.59$, $SD = 7.96$) differed significantly on their length of service $t (1821) = 7.878, p < .001$. However, the effect size was small ($d = .12$) based on the benchmarks suggested by Cohen (1988).

Table 5.3

Distribution of Sample by Branches

<table>
<thead>
<tr>
<th>Branch</th>
<th>%</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Command</td>
<td>.8</td>
<td>14</td>
</tr>
<tr>
<td>Corporate Communications</td>
<td>.5</td>
<td>9</td>
</tr>
<tr>
<td>Crime Operations</td>
<td>33.2</td>
<td>609</td>
</tr>
<tr>
<td>District Policing</td>
<td>38.2</td>
<td>701</td>
</tr>
<tr>
<td>Finance and Support</td>
<td>2.7</td>
<td>49</td>
</tr>
<tr>
<td>Legacy and Justice</td>
<td>8.1</td>
<td>149</td>
</tr>
<tr>
<td>Operational Support</td>
<td>15.1</td>
<td>277</td>
</tr>
<tr>
<td>HR</td>
<td>1.4</td>
<td>26</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>1,834</td>
</tr>
</tbody>
</table>

Just under one-in-five (17.7%) officers held at least one secondary role, in addition to their primary roles within the service. Secondary roles are often related to specialist trainings and can be highly stressful through increasing traumatic exposure to officers. These secondary roles included Body Recovery ($n = 41$); Chemical, Biological, Radiological and Nuclear Response ($n = 53$); Security Coordinator ($n = 7$); Joint Emergency Services Interoperability Programme ($n = 30$); Family Liaison Officer for Fatal Road Traffic Collisions ($n = 92$); Family Liaison Advisor for Crime ($n = 54$);
Federation Representative \((n = 43)\); Firearms Commander \((n = 28)\); Hostage and Crisis Negotiator \((n = 16)\); Peer Support Debrief \((n = 15)\); Police Search Advisor \((n = 8)\); Post Incident Manager \((n = 11)\); Public Order Commander or Tactical Advisor \((n = 71)\); Search and Rescue \((n = 13)\); Senior Identification Manager \((n = 6)\); Union Representative \((n = 20)\); and Use of Less Lethal Technology Against an Armed, Threatening Subject \((n = 22)\).

Staff and officers are posted across a total of twelve districts. Individuals participated across the various locations, with 19.8\% \((n = 361)\) from headquarters, 6.5\% \((n = 118)\) from Antrim and Newtownabbey, 4.5\% \((n = 82)\) from Newtownards and North Down, 9.4\% \((n = 172)\) from Armagh City, Banbridge and Craigavon, 21.7\% \((n = 395)\) from Belfast City, 4.9\% \((n = 89)\) from Causeway Coast and Glens, 8.2\% \((n = 150)\) from Derry City and Strabane, 5.3\% \((n = 97)\) from Fermanagh and Omagh, 6.7\% \((n = 122)\) Lisburn and Castlereagh, 5.5\% \((n = 100)\) from Mid and East Antrim, 3.1\% \((n = 57)\) from Mid-Ulster, 4.4\% \((n = 80)\) from Newry, Mourne, and Down.

The average total length of service in the police was just under 17 and a half years \((M = 17.40, SD = 8.74)\) with a range of one to 52 years in service. In addition to the total length of service, time spent in current role was also recorded. The average length of time spent in the participants current role was 6.89 years \((SD = 6.09)\) with five years being the most common response across the service. More than half (52.6\%) of the sample had been in their current role for five years or less. The length of being in their current post ranged from less than 1 year to 38 years. Average length of in role differed between branches: 4.07 years for Command; 2.67 years for Corporate Communications; 5.75 years for Crime Operations; 6.49 years for District Policing; 8.49 years for Finance and Support; 10.11 for Legacy and Justice; 8.48 years for Operational Support; and 8.92 years for Human Resources. The length of time spent in role was significantly different across branches \((F(7,1826)=14.83, p < .001)\), with a small effect size of \(d = .054\) identified for
length of time spent in role and branches. Occupational characteristics from this sample are summarised in Table 5.4.

Table 5.4

*Occupational Sample Characteristics Among PSNI Personnel*

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Mean (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length of service (years)</td>
<td>17.41 (8.74)</td>
</tr>
<tr>
<td>Length in current role (years)</td>
<td>6.89 (6.09)</td>
</tr>
<tr>
<td>Rank, % constable (n)</td>
<td>72.9 (1050)</td>
</tr>
<tr>
<td>Position, % officer (n)</td>
<td>78.6 (1,441)</td>
</tr>
<tr>
<td>Post location, % Belfast (n)</td>
<td>21.7 (395)</td>
</tr>
<tr>
<td>Secondary roles, % with at least one secondary role</td>
<td>32.5 (596)</td>
</tr>
</tbody>
</table>

There were minimal differences across the various branches for individual factors. None of the individual demographics, including age, number of children, sex, level of education, or relationship status had any significant differences across the branches. Additionally, no significant differences were found for mean total years of service across the branches.

5.2 *Individual and occupational factors and mental health outcomes results*

Chi-squared analysis, independent sample t-tests, correlations, and analysis of variance (ANOVA) were used to better understand the associations of both individual and occupational demographic risks on mental health outcomes. Applying a more stringent $p$-value of .01 in order to reduce the chances of a Type 1 error in analysing multiple outcome variables, there were no significant associations between individual
demographics (age, relationship status, education, and children) and adverse mental health outcomes.

In terms of occupational demographics, and applying the same p-value of < .01, there were no significant associations between mental health outcomes and length of service or station location. However, ANOVA results suggested a statistically significant difference across ranks for CPTSD $F(3, 1436) = 3.70, p = .01$. In this outcome the assumption for homogeneity of variance was violated and thus the Welch statistics are given. The effect size for rank and CPTSD was very small, $d = .01$, and while the main effect was significant, none of the pairwise comparisons were significant.

There were statistically significant correlations between stigma scores and all mental health scores. The Pearson’s correlation coefficients for each outcome are summarised in Table 5.5.

Table 5.5

*Correlations Between Stigma and Mental Health Outcome*

<table>
<thead>
<tr>
<th>Mental Health Outcome</th>
<th>Stigma</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anxiety</td>
<td>.28**</td>
</tr>
<tr>
<td>Depression</td>
<td>.34**</td>
</tr>
<tr>
<td>PTSD</td>
<td>.20**</td>
</tr>
<tr>
<td>CPTSD</td>
<td>.29**</td>
</tr>
<tr>
<td>Burnout</td>
<td>.41**</td>
</tr>
<tr>
<td>STS</td>
<td>.31**</td>
</tr>
</tbody>
</table>

** $p < .001$ (2-tailed)
In addition, Pearson’s correlation analysis revealed that each of the mental health outcomes were highly correlated with one another. The results from this are outlined in Table 5.6.

Table 5.6

*Correlations Between Mental Health Outcomes*

<table>
<thead>
<tr>
<th>Mental Health Outcome</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Anxiety</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Depression</td>
<td>.81**</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. PTSD</td>
<td>.54**</td>
<td>.55**</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. CPTSD</td>
<td>.67**</td>
<td>.71**</td>
<td>.89**</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Burnout</td>
<td>.60**</td>
<td>.64**</td>
<td>.43**</td>
<td>.56**</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>6. STS</td>
<td>.57**</td>
<td>.54**</td>
<td>.59**</td>
<td>.62**</td>
<td>.60**</td>
<td>-</td>
</tr>
</tbody>
</table>

** p < .001 (2-tailed)

5.3 Service-wide Rates of Adverse Mental Health Results

Across the service, the criterion of a diagnostic cut-off score for anxiety was met by 34.4% (n = 563) of the sample. Anxiety scores ranged from 0 to 21 with a mean score of 8.03 (SD = 6.07). One third (36.6%) of respondents met the cut-off score for depression, with scores ranging from 0 to 27 and a mean score 8.62 (SD = 6.47). Overall, nearly a quarter (22.2%) of the PSNI met the diagnostic criteria for PTSD or CPTSD. One in ten (9.8%) participants met the diagnostic criteria for PTSD and another 12.3% met the criteria for a CPTSD diagnosis. Scores for PTSD ranged from 0 to 24, with a mean score
of 7.84 ($SD = 6.29$), and CPTSD scores ranged from 0 to 48, with a mean score of 15.93 ($SD = 11.14$).

High burnout was identified for 2.2% ($n = 40$) of the population. Scores ranged from 10 to 50 with a mean score of 28.16 ($SD = 6.63$). High secondary traumatic stress was identified for 1.6% ($n = 29$) of the population. Scores ranged from 10 to 48 with a mean score of 23.19 ($SD = 7.21$). Independent-sample t-tests found that there were no significant differences found for any of the mental health outcomes between officers and staff.

### 5.4 Rates of Adverse Mental Health by Branch Results

Rates of adverse mental health varied across the branches and are presented in Table 5.7. The investigation into branch differences included analysing the branch as a whole, as well as branch staff and branch officers independently. This analysis includes frequencies and mean scores to identify rates of poor mental health outcomes. The mean score of adverse mental health outcomes is also outlined in Table 5.8.

#### Table 5.7

*Rates of Positive Screenings for Adverse Mental Health Outcome by Branch*

<table>
<thead>
<tr>
<th>Mental Health Outcome</th>
<th>Crime Operations</th>
<th>District Policing</th>
<th>Legacy and Justice</th>
<th>Operational Support</th>
<th>Admin Branches</th>
<th>All Branches</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anxiety</td>
<td>28.3%</td>
<td>34.4%</td>
<td>31.1%</td>
<td>28%</td>
<td>30.6%</td>
<td>34.4%</td>
</tr>
<tr>
<td>Depression</td>
<td>32.6%</td>
<td>40.3%</td>
<td>37.2%</td>
<td>36.4%</td>
<td>35.7%</td>
<td>36.6%</td>
</tr>
<tr>
<td>PTSD</td>
<td>10.4%</td>
<td>9.2%</td>
<td>8.1%</td>
<td>10.2%</td>
<td>12.2%</td>
<td>9.8%</td>
</tr>
<tr>
<td>CPTSD</td>
<td>9.4%</td>
<td>13.8%</td>
<td>18.2%</td>
<td>13.8%</td>
<td>7.1%</td>
<td>12.3%</td>
</tr>
<tr>
<td>Burnout</td>
<td>1.3%</td>
<td>2.7%</td>
<td>4.1%</td>
<td>2.5%</td>
<td>0%</td>
<td>2.2%</td>
</tr>
<tr>
<td>STS</td>
<td>1%</td>
<td>1.4%</td>
<td>4.7%</td>
<td>1.8%</td>
<td>1%</td>
<td>1.6%</td>
</tr>
</tbody>
</table>
Table 5.8

*Adverse Mental Health Scores by Branch*

<table>
<thead>
<tr>
<th>Mental Health Outcome</th>
<th>Crime Operations</th>
<th>District Policing</th>
<th>Legacy and Justice</th>
<th>Operational Support</th>
<th>Administrative-based</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anxiety</td>
<td>7.60 (6.10)</td>
<td>8.56 (6.20)</td>
<td>7.85 (6.00)</td>
<td>7.79 (5.90)</td>
<td>7.85 (6.12)</td>
</tr>
<tr>
<td>Depression</td>
<td>7.85 (5.99)</td>
<td>9.17 (6.62)</td>
<td>9.17 (6.84)</td>
<td>8.70 (6.47)</td>
<td>8.36 (6.61)</td>
</tr>
<tr>
<td>PTSD</td>
<td>7.33 (6.14)</td>
<td>8.13 (6.29)</td>
<td>8.34 (6.70)</td>
<td>8.26 (6.48)</td>
<td>6.95 (5.75)</td>
</tr>
<tr>
<td>CPTSD</td>
<td>14.74 (10.59)</td>
<td>16.58 (11.13)</td>
<td>17.34 (12.70)</td>
<td>16.60 (11.40)</td>
<td>14.58 (10.67)</td>
</tr>
<tr>
<td>Burnout</td>
<td>27.58 (6.38)</td>
<td>28.99 (6.68)</td>
<td>28.08 (7.37)</td>
<td>28.17 (6.40)</td>
<td>25.86 (6.41)</td>
</tr>
<tr>
<td>STS</td>
<td>22.82 (7.05)</td>
<td>23.91 (7.05)</td>
<td>23.04 (8.43)</td>
<td>23.25 (7.25)</td>
<td>20.35 (6.64)</td>
</tr>
</tbody>
</table>

5.4.1 Crime Operations Branch

There was a probable diagnosis of anxiety for nearly three in ten (28.3%) personnel in this branch, with a higher percentage of officers (32.9%) who had a probable anxiety diagnosis when compared to staff (16.7%). The mean score for anxiety was 7.60 with a range of 0 to 21 ($SD = 6.10$). The Crime Operations branch also had a third (33.3%) of personnel with a probable depression diagnosis. There was a higher percentage of officers (30.2%) with a probable depression diagnosis in comparison to staff (28.6%). The mean score for depression was 7.85 with a range of 0 to 26 ($SD = 5.99$).
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High burnout was found for 1.3% of those in the Crime Operations branch. Officers reported that 1.5% had high burnout in comparison to no (0%) staff meeting the diagnostic criteria. The mean score for burnout was 27.58 with a range of 11 to 43 ($SD = 6.38$). High STS was found for 1% of the personnel from this branch and this included 1.1% of officers having a high STS and no staff meeting the criteria. The mean score for STS was 22.82 with a range of 10 to 45 ($SD = 7.05$).

One in ten personnel (10.4%) from Crime Operations met the cut-off score for PTSD. When comparing officers and staff, officers had a higher percentage of those who had a probable diagnosis of PTSD (11.5%) compared to staff (3.6%). The mean score for PTSD was 7.33 with a range of 0 to 24 ($SD = 6.14$). Additionally, Crime Operations had just under one in ten (9.4%) personnel with a probable diagnosis of CPTSD. Officers had a nearly identical rates of probable CPTSD diagnosis (9.4%) when compared to staff (9.5%) in this branch. The mean score for CPTSD was 14.74 with a range of 0 to 48 ($SD = 10.59$).

5.4.2 District Policing Branch

There was a probable diagnosis of anxiety for approximately one in three (34.4%) personnel in this branch, with a higher percentage of officers (38.3%) who had a probable anxiety diagnosis than staff (29.4%). The mean score for anxiety was 8.56 with a range of 0 to 21 ($SD = 6.20$). The District Policing branch had more than a third (36.7%) of its personnel with a probable depression diagnosis. There was a higher percentage of officers (40.7%) with a probable depression diagnosis in comparison to staff (32.4%). The mean score for depression was 9.17 with a range of 0 to 27 ($SD = 6.62$).

High burnout was found for 2.7% of those in the District Policing branch. Officers reported that 2.9% had high burnout in comparison to no (0%) staff meeting the diagnostic criteria. The mean score for burnout was 28.99 with a range of 10 to 48 ($SD = 6.38$).
High STS was found for 1.4% of the personnel from this branch and this included 1.5% of officers having high STS and no staff meeting the criteria for high STS. The mean score for STS was 23.91 with a range of 10 to 58 ($SD = 7.05$).

Just under one in ten personnel (9.2%) from District Policing met the cut-off score for PTSD. When comparing officers and staff, officers had a higher percentage of those who had a probable diagnosis of PTSD (9.3%) compared to staff (5.9%). The mean score for PTSD was 8.13 with a range of 0 to 24 ($SD = 6.29$). Additionally, more than one in ten (13.8%) personnel had a probable diagnosis of CPTSD. Officers had a lower rate of probable diagnosis (13.7%) when compared to staff (14.7%) in this branch. The mean score for CPTSD was 16.58 with a range of 0 to 48 ($SD = 11.13$).

5.4.3 Legacy and Justice Branch

There was a probable diagnosis of anxiety for more than three in ten (31.1%) personnel in this branch, with a higher percentage of staff (36.1%) with a probable anxiety diagnosis than officers (27.5%). The mean score for anxiety was 7.85 with a range of 0 to 21 ($SD = 6.00$). The Legacy and Justice branch had more than a third (34.5%) of its personnel with a probable depression diagnosis. There was a higher percentage of staff (38%) with a probable depression diagnosis in comparison to officers (35%). The mean score for depression was 9.17 with a range of 0 to 27 ($SD = 6.84$).

High burnout was found for 4.1% of those in the Legacy and Justice branch. Officers reported that 5.6% had high burnout in comparison to no (0%) officers meeting the criteria for high burnout. The mean score for burnout was 28.08 with a range of 10 to 47 ($SD = 7.37$). High STS was found for 4.7% of the personnel from this branch and this included 7.5% of officers having high STS and 3.7% staff having high STS. The mean score for STS was 23.04, with a range of 10 to 48 ($SD = 8.43$).
Less than one in ten personnel (8.1%) from Legacy and Justice met the cut-off scores for PTSD. When comparing officers and staff, officers had a higher percentage of those who had a probable diagnosis of PTSD (10%) than staff (7.4%). The mean score for PTSD was 8.34 with a range of 0 to 23 ($SD = 6.70$). Additionally, nearly one in five (18.2%) personnel had a probable diagnosis of CPTSD. Officers had a higher probable diagnosis (20%) when compared to staff (17.6%) in this branch. The mean score for CPTSD was 17.34 with a range of 0 to 45 ($SD = 12.70$).

5.4.4 Operational Support Branch

There was a probable diagnosis of anxiety for nearly three in ten (28%) personnel in this branch, with a higher percentage of officers (34.8%) who had a probable anxiety diagnosis than staff (30.9%). The mean score for anxiety was 7.79 with a range of 0 to 21 ($SD = 5.90$). The Operational Support branch had nearly a third (32.7%) of its personnel with a probable depression diagnosis. There was a higher percentage of officers (38.6%) with a probable depression diagnosis in comparison to staff (29.4%). The mean score for depression was 8.70 with a range of 0 to 27 ($SD = 6.47$).

High burnout was found for 2.5% of those in the Operational Support branch. Officers reported that 3.4% had a burnout diagnosis in comparison to no (0%) staff meeting the criteria for high burnout. The mean score for burnout was 28.17 with a range of 12 to 50 ($SD = 6.40$). High STS was found for 1.8% of the personnel from this branch and this included 2.4% of officers having high STS and no staff meeting the diagnostic criteria. The mean score for STS was 23.25 with a range of 10 to 49 ($SD = 7.25$).

One in ten personnel (10.2%) from Operational Support met the cut-off scores for PTSD. When comparing officers and staff, officers had nearly three times higher of a percentage of those who had a probable diagnosis of PTSD (12.1%) compared to staff (4.4%). The mean score for PTSD was 8.26 with a range of 0 to 24 ($SD = 6.48$).
Additionally, more than one in ten (13.8%) personnel met the cut-off score for CPTSD. Officers had a higher probable diagnosis (16.4%) when compared to staff (5.9%) in this branch. The mean score for CPTSD was 16.60 with a range of 0 to 48 (SD = 11.40).

5.4.5 Administrative-based Branches (Command, Corporate Communications, Human Resources, Finance and Support)

There was a probable diagnosis of anxiety for three in ten (30.6%) personnel in this branch, with comparable percentages of officers (34%) and staff (34.1%) who had a probable anxiety diagnosis. The mean score for anxiety was 7.85 with a range of 0 to 21 (SD = 6.12). The administrative-based branch had just over three in ten (31.6%) personnel with a probable depression diagnosis. There was a higher percentage of officers (42%) with a probable depression diagnosis in comparison to staff (31.8%). The mean score for depression was 8.36 with a range of 0 to 26 (SD = 6.61).

More than one in ten personnel (12.2%) from Administrative-based Branch met the cut-off scores for PTSD. When comparing officers and staff, officers had a lower percentage of those who had a probable diagnosis of PTSD (12.2%) compared to staff (20%). The mean score for PTSD was 6.95 with a range of 0 to 22 (SD = 5.75). Additionally, less than one in ten (7.1%) personnel had a probable diagnosis of CPTSD. Twenty percent of the officers met the cut-off scores for CPTSD and 8% of staff in this branch had a probable diagnosis of CPTSD. The mean score for CPTSD was 14.58 with a range of 0 to 39 (SD = 10.67).

There were no instances of high burnout (0%) for any of the personnel in the administrative-based branches, including both officers and staff. The mean score for burnout was 25.86 with a range of 10 to 40 (SD = 6.41). High STS was found for 1% of the personnel from this branch and this included 10% of officers having high STS and no staff. The mean score for STS was 20.35 with a range of 11 to 49 (SD = 6.46).
5.4.6 Overall differences between branches

A chi-square test revealed that there were no statistically significant differences in rates of probable anxiety diagnosis $X^2 (4, N = 1823) = 6.99, p = .140$, probable depression diagnosis $X^2 (4, N = 1823) = 7.49, p = .112$ or probable PTSD diagnosis $X^2 (4, N = 1823) = 1.77, p = .778$ across the various branches. There was a statistically significant difference in rates of probable CPTSD diagnosis when comparing branches $X^2 (4, N = 1823) = 13.76, p = .008, phi = .06$. However, when analysing the various branches by staff and officers, there were no significant differences.

A chi-square test revealed that while there was no statistically significant differences in rates of high burnout when comparing branches overall $X^2 (4, N = 1824) = 7.77, p = .100$, there was a significant difference for high burnout when comparing only the staff of branches $X^2 (4, N = 382) = 15.47, p = .004, phi = .16$. However, 50% of the cells had an expected count less than 5 due to no high burnout in many of the branches, leading to a cell count of 0.

Similarly, while there were no statistically significant differences in rates of high STS when comparing branches overall $X^2 (4, N = 1834) = 11.09, p = .026$, there was a significant difference when only comparing officers across branches $X^2 (4, N = 1451) = 13.72, p = .008, phi = .11$. However, there was an expected count of less than 5 for 30% of the cells due to the few cases of a high STS.

A one-way between-groups analysis of variance was conducted to explore differences across police branches on the various mental health outcomes, including anxiety, depression, burnout, STS, PTSD and CPTSD. Participants were categorised into the following branches: Crime Operations, District Policing, Legacy and Justice, Operational Support, and Administrative branches (which consisted of branches who primarily work in desk-based, administrative roles in comparison to the operational
policing capacity of the other branches, including Command, Corporate Communications, Finance, and Human Resources.) Statistically significant findings at the $p < .01$ level were identified for the majority of mental health outcomes. However, the ANOVA for anxiety $F(4, 1818) = 2.25, p = .061$ and for PTSD $F(4, 1829) = 2.44, p = .045$ showed that there were no statistically significant differences between the police branches.

Depression outcomes between groups had a statistically significant outcome at the $p < .01$ level: $F(4,1818) = 3.76, p = .005$. Although significant, the eta squared value had a minimal effect size at $\eta = .01$. Post-hoc comparisons were made using the Tukey HSD test and found that the mean score for Crime Operations ($M = 7.85, SD = 6.1$) was significantly lower than that of District Policing ($M = 9.17, SD = 6.62$), while no other differences were found for the other branches: Legacy and Justice ($M = 9.17, SD = 6.84$), Operational Support ($M = 8.70, SD = 6.47$) and Administrative Branches ($M = 8.36, SD = 6.61$).

CPTSD mean scores differed significantly between branches: $F(4,1829) = 3.55, p = .007$. The eta squared showed that there was a small effect size of $\eta = .01$. Post-hoc comparisons using Tukey HSD indicated that there was a significant difference in mean scores between Crime Operations ($M = 14.74, SD = 10.59$) and District Policing ($M = 16.58, SD = 11.13$). No significant differences were found between groups for Legacy and Justice ($M = 17.34, SD = 12.69$), Operational Support ($M = 16.60, SD = 11.40$) or Administrative Branches ($M = 14.58, SD = 10.67$).

Results of the ANOVA comparing branches across measures of burnout revealed statistically significant differences between police branches: $F(4,1819) = 6.94, p < .001$, with a small effect size of $\eta = .015$. Post-hoc tests using the Tukey HSD found that there were significant mean differences between Crime Operations ($M = 27.58, SD = 6.37$) and District Policing ($M = 9.17, SD = 6.62$). Additionally, there were significant differences
between All Others \((M = 25.86, SD = 6.41)\) and District Policing, as well as Administrative Branches and Operational Support \((M = 28.17, SD = 6.40)\). No statistically significant differences were found between Legacy and Justice \((M = 28.10, SD = 7.37)\) and the other branches.

Statistically significant differences between the branches were also found for mean STS: \(F(4,1829) = 6.07, p < .001\), with a small effect of \(\eta = .01\). The Tukey HSD Post-hoc test revealed that Administrative Branches \((M = 20.35, SD = 6.45)\) had significantly lower mean scores for STS compared to the other branches: Crime Operations \((M = 22.82, SD = 7.05)\), District Policing \((M = 23.91, SD = 7.05)\), Legacy and Justice \((M = 23.05, SD = 8.47)\) and Operational Support \((M = 23.25, SD = 6.45)\). District Policing and Crime Operations also differed significantly, whereby district policing had a higher mean score of STS.

5.5 Key Risk Factors Results

5.5.1 Anxiety

The results of the hierarchical regression analysis for anxiety are presented in Table 5.9. Each step of the regression model was significant \((p < .001)\). The hierarchical multiple regression revealed that in the first step, individual factors significantly contributed to the model \(F(17, 1040) = 44.01, p < .001\). Individual factors explained 42% of the variance for anxiety. More specifically, emotional stability \((\beta = -.38, p < .001)\) and avoidance coping \((\beta = .28, p < .001)\) were highly significant in predicting variance for anxiety. Stigma, to a smaller effect, also contributed to the prediction of anxiety \((\beta = .14, p < .001)\).

Step two of the model, which included operational factors, revealed an additional 2% variance of anxiety \(F(25, 1032) = 32.25, p < .001\). In this step and emotional stability \((\beta = -.39, p < .001)\) and avoidance coping \((\beta = .28, p < .001)\) both remained the strongest
predictors of anxiety. Stigma also remained statistically significant ($\beta = .12, p < .001$) and coping using problem solving also became significant in this step ($\beta = .21, p < .05$). The operational factors of sum CIHQ (the number of different types of critical incidents an individual has been exposed to while working for the police) was significant with a moderate effect ($\beta = .15, p < .001$). In addition, the branch an individual worked in also significantly contributed to the variance of anxiety with a small effect ($\beta = -.05, p < .05$).

The final step, which included organisational factors, revealed an additional 7% of the variance of anxiety. Overall, at step 3 the total variance explained by the model was 50%, $F (35, 1022) = 29.57, p < .001$. In this model, again, emotional stability ($\beta = -.37, p < .001$) and avoidance coping ($\beta = .23, p < .001$) remained highly significant contributors to anxiety variance with large and moderate effect sizes. Stigma also remained significant but with a small effect and a reduction in p-value ($\beta = .07, p < .05$) The operational factors were reduced to non-significance in the final step. Two of the HSE indicators had significant outcomes: demand ($\beta = .16, p < .001$), and negative relationships ($\beta = .08, p < .05$). PSNI related stress also uniquely contributed to the prediction of anxiety, although with a small effect size ($\beta = .05, p < .05$).

Table 5.9

*Summary of Hierarchical Regression Analysis of Predicators of Anxiety*

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**Step 2**

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TIPI – Agreeableness -.02
TIPI – Conscientiousness .01
TIPI – Openness to Experiences .03
TIPI – Emotional Stability -.39**
Location e .04
Rank f .01
Role g -.00
Length of Service .01
Branch h -.05*
Years in Role -.01
Sum CIHQ .18**
Number of Secondary Roles -.04

Step 3 .07***
Sex a .02
Age .00
Relationship b .01
Children c .01
Education d .03
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Sum Adult Trauma .01
Sum Stigma .07*
COPE – Seek Social Support .04
COPE – Problem Solving .05
COPE – Avoidance .23**
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5.5.2 Depression

The results from the hierarchical regression are presented below in Table 5.10. All three steps of the regression model were significant ($p < .001$). The hierarchical multiple regression revealed that in the first step, individual factors significantly contributed 44% to the model $F(17, 1040) = 47.10$ $p < .001$. In the first step several individual factors were significant contributors to the variance of depression. These included avoidance coping ($\beta = .32, p < .001$), emotional stability ($\beta = -.29, p < .001$), and extraversion ($\beta = -.07, p < .05$). In addition, adverse childhood experience traumas ($\beta = .06, p < .05$), adult traumas (outside of policing) ($\beta = .08, p < .05$) and stigma ($\beta = .17, p < .001$), also made unique contributions to predicting the variance of depression.

When operational factors were added at step two of the model, all of the previous individual significant variables remained significant: avoidance coping ($\beta = .32, p < .001$), extraversion ($\beta = -.07, p < .05$), emotional stability ($\beta = -.29, p < .001$), sum stigma ($\beta = .16, p < .001$), and sum adult trauma ($\beta = .05, p < .05$). Sum ACE trauma was no longer significant in this step. Three operational factors were also statistically significant in predicting the variance of depression. These included Sum CIHQ ($\beta = .11, p < .001$), station location ($\beta = .05, p < .05$), and branch ($\beta = -.07, p < .05$). Step two of the model explained an additional 2% variance overall and was significant $F(25, 1032) = 34.07, p < .001$.
The final step of this model added organisational factors, which significantly explained a further 5% variance \((p < .001)\). At step 3 the total variance explained by the model was 50%, \(F (34,1023) = 28.69, p < .001\). Of the individual factors, avoidance coping \((\beta = .28, p < .001)\), emotional stability \((\beta = -.27, p < .001)\), extraversion \((\beta = -.06, p < .05)\), stigma \((\beta = .12, p < .001)\), and sum adult traumas \((\beta = .05, p < .05)\) remained statistically significant. In addition, education now significantly predicted depression, although with a small effect \((\beta = .05, p < .05)\). In the final model, the only operational factor to remain significant was station location \((\beta = .05, p < .05)\). Several of the organisational variable significantly contributed with a small effect to the variance of depression. These included PSNI stress \((\beta = .09, p < .001)\), HSE control \((\beta = -.06, p < .05)\), HSE demand \((\beta = .08, p < .05)\), and HSE negative relationships \((\beta = .07, p < .05)\).

Table 5.10

*Summary of Hierarchical Regression Analysis of Predicators of Depression*

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**Step 2**  

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TIPI – Openness to Experiences  .01
TIPI – Emotional Stability  -.27**
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Rank  .01
Role  -.01
Length of Service  -.02
Branch  -.03
Years in Role  .02
Sum CIHQ  .00
Number of Secondary Roles  -.01
Security Concerns  .02
SPOS  .01
PSNI Stress  .09**
HSE – Control  -.06*
HSE – Demand  .08*
HSE – Manager Support  -.03
HSE – Peer Support  -.05
HSE – Negative Relationships  .07*
HSE – Role  -.02
HSE – Change  -.00

Total $R^2$  .50***

Note: The reported beta coefficients were derived from the stepwise regression models. ACE = Adverse Childhood Experiences; COPE = Brief COPE Inventory; TIPI = Ten Item Personality Inventory; CIHQ = Critical Incident History Questionnaire; SPOS = 8 item Survey of Perceived Organisational Support; HSE = Health and Safety Executive Management Standards Indicator Tool
* p < .05; *** p < .001
5.5.3 PTSD

The results of the hierarchical regression analysis with PTSD as the criterion variable are presented in Table 5.11. The first step, which included individual factors, was a significant model $F(17, 1040) = 22.06, p < .001$ and explained 27% of the variance for PTSD. Of the individual factors having children ($\beta = .07, p < .05$), sum adult traumas ($\beta = .15, p < .001$), stigma ($\beta = .09, p < .05$), and avoidance coping ($\beta = .24, p < .001$) all significantly contributed to PTSD variance with a small or moderate effect. Additionally, several personality characteristics significantly predicted PTSD: extraversion ($\beta = -.07, p < .05$), openness to experiences ($\beta = .07, p < .05$) and emotional stability ($\beta = -.25, p < .001$).

The second step model was also significant $F(25, 1032) = 19.44, p < .001$. In this model, where operational factors were added, all of the same individual factors remained significant: children ($\beta = .06, p < .05$), sum adult trauma ($\beta = .11, p < .001$), avoidance coping ($\beta = .23, p < .001$), extraversion ($\beta = -.07, p < .05$), openness to experience ($\beta = .07, p < .05$), and emotional stability ($\beta = -.26, p < .001$). In addition, the operational factors that were significant included branch ($\beta = -.06, p < .05$) and sum CIHQ ($\beta = .24, p < .001$). The inclusion of operational factors contributed an additional 6% variance.

The third step, which included organisational factors, was significant and added an additional 2% variance for PTSD. While branch was no longer significant, all other previous significant variables remained significant: children ($\beta = .06, p < .05$), sum adult trauma ($\beta = .10, p < .001$), avoidance coping ($\beta = .21, p < .001$), extraversion ($\beta = -.07, p
<.05), openness to experiences ($\beta = .07, p < .05$), emotional stability ($\beta = -.25, p < .001$), and sum CIHQ ($\beta = .15, p < .001$). Organisational factors added two significant variables to the model: security concerns ($\beta = .08, p < .05$) and PSNI stress ($\beta = .09, p < .05$). At step 3 the total variance explained by the final model was 34%, $F (35,1022) = 15.29, p < .001$.

Table 5.11

Summary of Hierarchical Regression Analysis of Predictors of Posttraumatic Stress Disorder

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Sum Stigma  .09*

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COPE – Problem Solving  -.02

COPE – Avoidance  .24**

COPE – Positive Thinking  .03

TIPI – Extraversion  -.07*

TIPI – Agreeableness  -.01

TIPI – Conscientiousness  .03

TIPI – Openness to Experiences  .07*

TIPI – Emotional Stability  -.25**

*Step 2  .06***

Sex a  .05

Age  .01

Relationship b  .01

Children c  .06*

Education d  .05

Sum ACE Trauma  .02

Sum Adult Trauma  .11**

Sum Stigma  .06

COPE – Seek Social Support  .05

COPE – Problem Solving  -.01

COPE – Avoidance  .23**

COPE – Positive Thinking  -.01

TIPI – Extraversion  -.07*
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</tr>
<tr>
<td>TIPI – Conscientiousness</td>
<td>.03</td>
</tr>
<tr>
<td>TIPI – Openness to Experiences</td>
<td>.07*</td>
</tr>
<tr>
<td>TIPI – Emotional Stability</td>
<td>-.25**</td>
</tr>
<tr>
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<tr>
<td>Rank</td>
<td>.05</td>
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<td>.00</td>
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<tr>
<td>Length of Service</td>
<td>-.03</td>
</tr>
<tr>
<td>Branch</td>
<td>-.04</td>
</tr>
<tr>
<td>Years in Role</td>
<td>.02</td>
</tr>
<tr>
<td>Sum CIHQ</td>
<td>.15**</td>
</tr>
<tr>
<td>Number of Secondary Roles</td>
<td>-.03</td>
</tr>
<tr>
<td>Security Concerns</td>
<td>.08*</td>
</tr>
<tr>
<td>SPOS</td>
<td>.04</td>
</tr>
<tr>
<td>PSNI Stress</td>
<td>.09*</td>
</tr>
<tr>
<td>HSE – Control</td>
<td>-.05</td>
</tr>
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<td>HSE – Demand</td>
<td>-.01</td>
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<td>HSE – Manager Support</td>
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<td>HSE – Peer Support</td>
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<td>HSE – Negative Relationships</td>
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<tr>
<td>HSE – Role</td>
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</tr>
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<td>HSE - Change</td>
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</tr>
<tr>
<td><strong>Total $R^2$</strong></td>
<td>.34***</td>
</tr>
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</table>

Note: The reported beta coefficients were derived from the stepwise regression models. ACE = Adverse Childhood Experiences; COPE = Brief COPE Inventory; TIPI = Ten Item Personality Inventory; CIHQ = Critical Incident History Questionnaire; SPOS = 8 item Survey of Perceived Organisational
Support; HSE – Health and Safety Executive Management Standards Indicator Tool
* p < .05; **** p < .001

- Male gender coded as 0, female gender coded as 1
- In relationship coded as 0, not in a relationship coded as 1
- Do not have children coded as 0, have children coded as 1
- Secondary coded as 0, post-secondary and higher education coded as 1
- Outside of Belfast coded as 0, Belfast coded as 1
- Sergeant and higher coded as 0, Constable coded as 1
- Staff coded as 0, officers coded as 1
- All others coded as 0, Crime Operations coded as 1

5.5.4 CPTSD

The results of the hierarchical regression for CPTSD are presented in Table 5.12. The first step revealed a statistically significant 43% variance for CPTSD $F(17, 1040) = 46.2$, $p < .001$. Within the first step of individual factors, sum ACE traumas ($\beta = .07, p < .05$), sum adult traumas ($\beta = .12, p < .001$), stigma ($\beta = .12, p < .001$), avoidance coping ($\beta = .33, p < .001$), extraversion ($\beta = -.12, p < .001$), agreeableness ($\beta = -.05, p < .05$), and emotional stability ($\beta = -.27, p < .001$) were all statistically significant in predicting CPTSD with small to moderate effect sizes.

The second step in the hierarchical regression added operational factors and explained a further 3% of the variance for CPTSD. This model was also significant $F(25, 1032) = 35.12, p < .001$. All but one of the individual factors (agreeableness) remained significant in this model: sum ACE traumas ($\beta = .05, p < .05$), sum adult traumas ($\beta = .09, p < .001$), Stigma ($\beta = .09, p < .001$), avoidance coping ($\beta = .33, p < .001$), extraversion ($\beta = -.12, p < .001$), and emotional stability ($\beta = -.28, p < .001$). Of the operational factors, branch ($\beta = -.06, p < .05$) and sum CHIQ ($\beta = .17, p < .001$) were both significant in predicting CPTSD.

The third and final step of this model included organisational factors. This model was significant and explained an additional 5% of the variance for CPTSD $F(35, 1022) = 27.76, p < .001$. While sum ACE traumas were reduced to non-significance in the final model, having children became statistically significant ($\beta = .05, p < .05$). Sum adult
traumas ($\beta = .08, p < .05$) and stigma ($\beta = .07, p < .05$) remained significant in explaining the variance of CPTSD with small effect sizes. Additionally, avoidance coping ($\beta = .30, p < .001$), extraversion ($\beta = -.11, p < .001$) and emotional stability ($\beta = -.27, p < .001$) remained significant with moderate effect sizes. Location was also reduced to non-significance but sum CIHQ remained significant ($\beta = .09, p < .05$) and was the only significant outcome out of the operational factors. The organisational factors revealed two significant predictors: SPOS (perception of organisational support) ($\beta = .05, p < .05$) and PSNI stress ($\beta = .09, p < .001$). In total, this model accounted for 49% of the total variance for CPTSD.

Table 5.12

*Summary of Hierarchical Regression Analysis of Predictors of Complex Posttraumatic Stress Disorder*

<table>
<thead>
<tr>
<th>Predictor</th>
<th>$\Delta R^2$</th>
<th>$\beta$</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Step 1</strong></td>
<td>.43***</td>
<td></td>
</tr>
<tr>
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<tr>
<td>Relationship $^b$</td>
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</tr>
<tr>
<td>Children $^c$</td>
<td></td>
<td>.05</td>
</tr>
<tr>
<td>Education $^d$</td>
<td></td>
<td>.04</td>
</tr>
<tr>
<td>Variable</td>
<td>Coefficient</td>
<td></td>
</tr>
<tr>
<td>----------------------------------------------</td>
<td>-------------</td>
<td></td>
</tr>
<tr>
<td>Sum ACE Trauma</td>
<td>.07*</td>
<td></td>
</tr>
<tr>
<td>Sum Adult Trauma</td>
<td>.12**</td>
<td></td>
</tr>
<tr>
<td>Sum Stigma</td>
<td>.12**</td>
<td></td>
</tr>
<tr>
<td>COPE – Seek Social Support</td>
<td>.01</td>
<td></td>
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<tr>
<td>COPE – Problem Solving</td>
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<tr>
<td>COPE – Avoidance</td>
<td>.33**</td>
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</tr>
<tr>
<td>COPE – Positive Thinking</td>
<td>.02</td>
<td></td>
</tr>
<tr>
<td>TIPI – Extraversion</td>
<td>-.12**</td>
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<tr>
<td>TIPI – Agreeableness</td>
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<td>TIPI – Openness to Experiences</td>
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Step 2

<table>
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<th>Variable</th>
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</thead>
<tbody>
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<tr>
<td>Age</td>
<td>-.01</td>
</tr>
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<td>Relationship</td>
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<tr>
<td>Children</td>
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<tr>
<td>Education</td>
<td>.04</td>
</tr>
<tr>
<td>Sum ACE Trauma</td>
<td>.05*</td>
</tr>
<tr>
<td>Sum Adult Trauma</td>
<td>.09**</td>
</tr>
<tr>
<td>Sum Stigma</td>
<td>.09**</td>
</tr>
<tr>
<td>COPE – Seek Social Support</td>
<td>.03</td>
</tr>
<tr>
<td>COPE – Problem Solving</td>
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<tr>
<td>COPE – Avoidance</td>
<td>.33**</td>
</tr>
<tr>
<td>COPE – Positive Thinking</td>
<td>-.01</td>
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<tr>
<td>Variable</td>
<td>Beta</td>
</tr>
<tr>
<td>-----------------------------------------------</td>
<td>-------</td>
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<tr>
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</tr>
<tr>
<td><strong>Step 3</strong></td>
<td></td>
</tr>
<tr>
<td>Sex</td>
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</tr>
<tr>
<td>Age</td>
<td>-0.01</td>
</tr>
<tr>
<td>Relationship</td>
<td>0.02</td>
</tr>
<tr>
<td>Children</td>
<td>0.05*</td>
</tr>
<tr>
<td>Education</td>
<td>0.04</td>
</tr>
<tr>
<td>Sum ACE Trauma</td>
<td>0.04</td>
</tr>
<tr>
<td>Sum Adult Trauma</td>
<td>0.08**</td>
</tr>
<tr>
<td>Sum Stigma</td>
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</tr>
<tr>
<td>COPE – Seek Social Support</td>
<td>0.03</td>
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<tr>
<td>COPE – Problem Solving</td>
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</tr>
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<td>COPE – Avoidance</td>
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</tbody>
</table>
COPE – Positive Thinking - .01
TIPI – Extraversion - .11**
TIPI – Agreeableness - .01
TIPI – Conscientiousness .01
TIPI – Openness to Experiences .04
TIPI – Emotional Stability - .27***
Location e .02
Rank f .04
Role g - .01
Length of Service - .03
Branch h - .04
Years in Role .02
Sum CIHQ .09*
Number of Secondary Roles - .01
Security Concerns .05
SPOS .05*
PSNI Stress .09***
HSE – Control - .03
HSE – Demand .01
HSE – Manager Support - .01
HSE – Peer Support - .05
HSE – Negative Relationships .04
HSE – Role - .03
HSE – Change - .04

Total $R^2$ .49***
Note: The reported beta coefficients were derived from the stepwise regression models. ACE = Adverse Childhood Experiences; COPE = Brief COPE Inventory; TIPI = Ten Item Personality Inventory; CIHQ = Critical Incident History Questionnaire; SPOS = 8 item Survey of Perceived Organisational Support; HSE = Health and Safety Executive Management Standards Indicator Tool

* p < .05; *** p < .001

a Male gender coded as 0, female gender coded as 1

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c Do not have children coded as 0, have children coded as 1

d Secondary coded as 0, post-secondary and higher education coded as 1

Outside of Belfast coded as 0, Belfast coded as 1

f Sergeant and higher coded as 0, Constable coded as 1

g Staff coded as 0, officers coded as 1

h All others coded as 0, Crime Operations coded as 1

5.5.5 Burnout

The results for the hierarchical regression with burnout as the criterion variable are summarised in Table 5.13. Each of the three steps in the hierarchical regression were significant (p < .001). The first step of the model, individual factors, accounted for 43% of the variance for burnout $F(17, 1040) = 45.40, p < .001$. The strongest predictors of burnout in this model had moderate and small effect sizes and included avoidance coping ($\beta = .23, p < .001$), agreeableness ($\beta = -.20, p < .001$), stigma ($\beta = .21, p < .001$), emotional stability ($\beta = -.18, p < .001$), extraversion ($\beta = -.15, p < .001$) and cope by seeking social support ($\beta = -.13, p < .001$). In addition, sex ($\beta = .05, p < .05$) and the personality trait conscientiousness ($\beta = -.07, p < .05$) also significantly predicted the variance of burnout.

Step 2 of this hierarchical regression introduced operational factors in addition to the individual factors and significantly accounted for an additional 4% variance, $F(25, 1032) = 35.35, p < .001$. While the only statistically significant operational factor in this step was sum CIHQ ($\beta = .20, p < .001$), all of the individual factors remained statistically significant in this step of the model: avoidance coping ($\beta = .22, p < .001$), emotional stability ($\beta = -.20, p < .001$), stigma ($\beta = .18, p < .001$) agreeableness ($\beta = -.16, p < .001$), extraversion ($\beta = -.15, p < .001$), cope by seeking social support ($\beta = -.11, p < .001$) and conscientiousness ($\beta = -.07, p < .05$).
The final step, which introduced organisational factors, was significant and explained a further 18% of the variance for burnout \((p < .001)\). Many of the individual factors remained significant with moderate effect in the final model: emotional stability \((\beta = -.17, p < .001)\), avoidance coping \((\beta = .15, p < .001)\), agreeableness \((\beta = -.13, p < .001)\), extraversion \((\beta = -.12, p < .001)\), cope by seeking social support \((\beta = -.10, p < .001)\) and stigma \((\beta = .09, p < .001)\). Sex and conscientiousness were both reduced to non-significance in this step. Additionally, the operational factor of sum CIHQ was reduced to non-significance in this step. The organisational variables that significantly predicted burnout include HSE demand \((\beta = .25, p < .001)\), HSE role \((\beta = -.14, p < .001)\), HSE peer support \((\beta = -.09, p < .001)\), HSE change \((\beta = -.07, p < .05)\) and HSE control \((\beta = -.07, p < .05)\). In addition, PSNI stress made a unique contribution to the variance of burnout \((\beta = .07, p < .05)\) with small effect. At step 3 the total variance explained by the model was 64%, \(F(35, 1022) = 51.03, p < .001\).

Table 5.13

*Summary of Hierarchical Regression Analysis of Predictors of Burnout*

<table>
<thead>
<tr>
<th>Predictor</th>
<th>(\Delta R^2)</th>
<th>(\beta)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Step 1</strong></td>
<td>.43***</td>
<td></td>
</tr>
<tr>
<td>Sex (^a)</td>
<td></td>
<td>.05*</td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td>-.02</td>
</tr>
<tr>
<td>Relationship (^b)</td>
<td></td>
<td>-.00</td>
</tr>
<tr>
<td>Children (^c)</td>
<td></td>
<td>.02</td>
</tr>
<tr>
<td>Education (^d)</td>
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<td>.01</td>
</tr>
</tbody>
</table>
Sum ACE Trauma .04
Sum Adult Trauma .03
Sum Stigma .21**
COPE – Seek Social Support -.13**
COPE – Problem Solving .02
COPE – Avoidance .23**
COPE – Positive Thinking .03
TIPI – Extraversion -.15**
TIPI – Agreeableness -.20**
TIPI – Conscientiousness -.07*
TIPI – Openness to Experiences -.01
TIPI – Emotional Stability -.18**

Step 2 .04***

Sex a .05*
Age -.01
Relationship b -.00
Children c .01
Education d .00
Sum ACE Trauma .02
Sum Adult Trauma -.00
Sum Stigma .18**
COPE – Seek Social Support -.11**
COPE – Problem Solving .02
COPE – Avoidance .22**
COPE – Positive Thinking -.01
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<td>TIPI – Conscientiousness</td>
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<td>TIPI – Openness to Experiences</td>
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<td>Rank f</td>
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<tr>
<td>Role g</td>
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<td>Length of Service</td>
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<td>Branch h</td>
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<tr>
<td><strong>Step 3</strong></td>
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<tr>
<td>Age</td>
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<td>Relationship b</td>
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<tr>
<td>Education d</td>
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<tr>
<td>Sum Adult Trauma</td>
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<tr>
<td>Sum Stigma</td>
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<td>COPE – Problem Solving</td>
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<tr>
<td>COPE – Avoidance</td>
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<tr>
<td>Variable</td>
<td>Beta</td>
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</tr>
<tr>
<td>COPE – Positive Thinking</td>
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<td>TIPi – Openness to Experiences</td>
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<td>Rank f</td>
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<tr>
<td>Role g</td>
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<td></td>
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<tr>
<td>Length of Service</td>
<td>-.01</td>
<td></td>
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<tr>
<td>Branch h</td>
<td>.01</td>
<td></td>
</tr>
<tr>
<td>Years in Role</td>
<td>.01</td>
<td></td>
</tr>
<tr>
<td>Sum CIHQ</td>
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<tr>
<td>Number of Secondary Roles</td>
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</tr>
<tr>
<td>Security Concerns</td>
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<td></td>
</tr>
<tr>
<td>SPOS</td>
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</tr>
<tr>
<td>PSNI Stress</td>
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<td>HSE – Control</td>
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<tr>
<td>HSE – Demand</td>
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<td>HSE – Manager Support</td>
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<td>HSE – Role</td>
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<td>HSE - Change</td>
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<tr>
<td>Total $R^2$</td>
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Note: The reported beta coefficients were derived from the stepwise regression models. ACE = Adverse Childhood Experiences; COPE = Brief COPE Inventory; TIPI = Ten Item Personality Inventory; CIHQ = Critical Incident History Questionnaire; SPOS = 8 item Survey of Perceived Organisational Support; HSE = Health and Safety Executive Management Standards Indicator Tool

* p < .05; **** p < .001

a Male gender coded as 0, female gender coded as 1
b In relationship coded as 0, not in a relationship coded as 1
c Do not have children coded as 0, have children coded as 1
d Secondary coded as 0, post-secondary and higher education coded as 1
e Outside of Belfast coded as 0, Belfast coded as 1
f Sergeant and higher coded as 0, Constable coded as 1
g Staff coded as 0, officers coded as 1
h All others coded as 0, Crime Operations coded as 1

5.5.6 Secondary Traumatic Stress

The results of the hierarchical regression for STS are provided below in Table 5.14. The first step in this model revealed that individual factors provided a significant contribution to STS, $F(17, 1040) = 28.33, p < .001$, accounting for 32% of the variance. In this model, avoidance coping ($\beta = .23, p < .001$), coping using social support ($\beta = .09, p < .05$), emotional stability ($\beta = -.21, p < .001$) and coping through positive thinking ($\beta = .07, p < .05$), were significant in predicting STS. Sum ACE trauma ($\beta = .06, p < .05$), sum adult trauma ($\beta = .07, p < .05$) and sum stigma ($\beta = .20, p < .001$), also significantly predicted STS scores.

Upon the introduction of operational factors into the model in step 2, there were some changes to the beta and significance levels of the individual variables. Avoidance coping ($\beta = .22, p < .001$), coping using social support ($\beta = .12, p < .001$), and emotional stability ($\beta = -.24, p < .001$), sum stigma ($\beta = .15, p < .001$), remained significant but the other previously significant variables in step 1 were reduced to non-significance in this model. However, conscientiousness ($\beta = -.06, p < .05$) became significant in this step. In addition, sum CIHQ was highly significant in its unique contribution to STS ($\beta = .34, p < .001$) with moderate effect. Overall, operational factors in this step significantly explained a further 10% variance of STS $F(25, 1032) = 29.90, p < .001$. 
The final step, which added organisational factors, explained a further 6% variance for STS scores and was significant $F(35, 1022) = 27.42, p < .001$. After the introduction of organisational factors, four of the individual factors remained significant: emotional stability ($\beta = -.23, p < .001$), avoidance coping ($\beta = .17, p < .001$) cope by seeking social support ($\beta = .12, p < .001$), and sum stigma ($\beta = .10, p < .001$). The operational variable of sum CIHQ remained significant as well ($\beta = .22, p < .001$).

Finally, of the organisational variables added, HSE demand ($\beta = .15, p < .001$), HSE role ($\beta = -.11, p < .001$), and security concerns ($\beta = .07, p < .05$) were all significant in predicting STS outcomes. At step 3 the total variance explained by the model was 48%.

Table 5.14

*Summary of Hierarchical Regression Analysis of Predicators of Secondary Traumatic Stress*

<table>
<thead>
<tr>
<th>Predictor</th>
<th>$\Delta R^2$</th>
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<td>Sum Stigma</td>
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**Step 2** [.10***](#)

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5.6 Discussion

5.6.1 Sample Characteristics Discussion

The individual characteristics of this population were similar to other police services across the globe. The PSNI, like most police forces (Lonsway et al., 2002; Muhlhausen, 2019), consists of a significant male majority, compared to an overall nearly 50% male population (range 42.4% - 50.6%) in the general working population workforce (Ellrich & Baier, 2017; Hartley, Burchfiel, Fekedulegn, Andrew, & Violanti, 2011). While the majority of officers in the PSNI are male (65.9%), females made up a larger percentage of staff workers (57.3%). The sample is consistent with other reports of gender distribution within the PSNI citing that 70.3% of officers are male and 58.4% of staff are male (PSNI, 2020b). The slight decrease in male participants is consistent with findings that females are more likely to take part in surveys compared to males (Curtin, Presser, & Singer, 2000; Saleh & Bista, 2017) and that those in higher ranking positions, most of whom are males in this case, are less likely to complete online surveys (Smith, 2008).

The mean age of this sample (44 years) was also consistent with previous studies conducted among police forces (ranging 39 - 41 years) (Colwell et al., 2011; Hartley et
The average age of police in this sample aligns with the Home Office report stating that the policing population in the U.K. is getting older and that nearly half of all police personnel are now 40 and over (2020). Additionally, family factors such as being in a relationship (married or living with partner) and having children are also common sample characteristics in police research (Austin-Ketch et al., 2012; Colwell et al., 2011). It should be noted that ethnicity was not collected in this sample due to the low numbers of ethnic minorities. Less than 1 in 100 officers (0.6%) and staff (0.8%) identify as an ethnic minority and thus may have been identifiable in the research (PSNI, 2020b). The various occupational characteristics of this sample are also similar to other police forces. Officers made up a majority of the sample (78.6%) with a majority (72.9%) of those being of constable rank. Nearly a third of (32.5%) officers and staff take on secondary roles in the police service. This may be due to pressure in their primary role to volunteer for these positions, wanting to enhance one’s curriculum vitae (CV), or simply out of interest.

The highest proportion of participants were based in Belfast, the largest city in Northern Ireland with a population of approximately 189,070, or 15% of the Northern Irish population (NISRA, 2020). Nearly one in five officers reported working in PSNI headquarters, the largest stations across Northern Ireland. Many police staff positions are also based in headquarters, with nearly two in five (37.2%) staff members working in headquarters.

The average length of service was in line with other U.K. police services (Home Office, 2019), with mean age and mean length of service roughly consistent with a 30-year career in the police. However many officers and staff have not been in their current operational role long-term, with more than half being in their current role for less than 5 years. This may indicate that there is high internal movement within the PSNI and that
personnel are often moved to a different department by the organisation, or choose to change roles. Many of the roles within the PSNI are high stress and require exposure to various traumatic situations. Therefore, individuals may choose to change units due to the stress of their current position. The Legacy and Justice branch had the longest average length of time in role by officers and staff. This is likely due to the nature of the work and a lack of lateral role change availability.

Within Legacy and Justice, the Scientific Support Staff made up more than half (59.6%) of the department sample. Scientific Support have a very particular job role where their skill set, including fingerprinting, mapping crime scenes, and photographing crime scenes, is not easily transferable to other roles in the service. The highly specialised nature of their work with a lack of lateral mobility in the organisation is likely the reason for the highest mean length of time in role. The low mean for Corporate Communications length of time in role should be interpreted with caution due to a low sample size in this branch (n = 9), but may be explained by transferability of this job role both within and outside the organisation.

5.6.2 Individual and occupational factors and mental health outcomes discussion

Consistent with other policing and military populations, no statistically significant relationships were found between age, relationship or education level and mental health outcomes in the current study (Brewin et al., 2000; Pole et al., 2001; Violanti et al., 2009). These findings are in contrast with general population studies and other police research, that report associations between sex, relationship status, and education and poor mental health outcome (Braithwaite, Delevi, & Fincham, 2010; Brewin et al., 2000; Gibb, Fergusson, & Horwood, 2011; Tolin & Foa, 2006; World Health Organisation, 2017).

Organisational research literature has found that when females work in male-dominated environments they often adapt and take on similar values, beliefs and attitudes
as their male counterparts (Marsden, Kalleberg, & Cook, 1993). Therefore, the lack of association between sex and mental health outcomes in this study may be explained by the organisational culture of police work, where both male and female personnel must be seen to be psychologically robust and strong. This appears to be the case for many females officers who also fear being ostracised as a result of emotional expression and thus display adverse mental health outcomes at similar rates to their male counterparts (Morris, 1996). However, there is some conflicting evidence regarding gender and mental health in police populations, where it has also been identified that female officers have a higher rates of depression in comparison to male officers (Violanti et al., 2009). Specific to PTSD, the lack of relationship between gender and PTSD may be due to police officers, both male and female, experiencing less intense peri-traumatic distress (a risk factor for the development of PTSD) and thus, experiencing less severe symptomology in comparison to civilians (Lilly, Pole, Best, Metzler, & Marmar, 2009). The reduction in peritraumatic distress in police personnel may be a result of the extensive trainings, socialization within the service, or the normalizing of frequent exposure to potentially traumatic situations.

Similarly, and inconsistent with previous research identifying higher education as associated with lower pathology of mental health, this study did not find any statistical differences across levels of education on mental health outcomes (Muntaner, Eaton, Miech, & O’Campo, 2004). One possible explanation is that higher education levels are commonly associated with increased socioeconomic position, including higher salary and better jobs, whereas the current sample have the same occupations and relatively similar salaries (although dependent on length of service, rank and role) (Muntaner et al., 2004). Moreover, the lack of association between education and adverse mental health outcomes in the current sample, of whom less than 40% have a university degree, may be due to the
unique education provided by the policing college and the social status that police officers hold in the community. The lack of association of education and mental health in this study may be due to PSNI officers and staff pay grades often being based on years of service and rank, without a focus on academic achievement. Overall, the theoretical explanations of how education impacts mental health outlined by Lee, including salary, better jobs, critical thinking and access to information, and one’s position in society, help to explain the findings of this study (2011).

Generally, being in a relationship is thought to act as a protective factor against the development of poor mental health. However, while being happily married or in a stable relationship has positive impacts on mental health, it has been found that people who are single have better mental health than those in negative relationships (those which lack support and satisfaction) (Holt-Lunstad, Birmingham, & Jones, 2008). Within policing populations, the association between relationship status and mental health is unclear. For example, while being in a relationship can pose as a risk factor for the development of stress and adverse mental health, Husain and Sajjad (2012) found that while police officers had moderate and severe levels of anxiety, depression and stress overall, those who were married projected higher levels of anxiety, depression and stress in comparison to those who were unmarried. In contrast, Violanti et al. (2009) found a positive effect of marriage on mental health among female officers. The current study found no association between relationship status and mental health outcomes. However, previous research with police officers often uses the categories of “married” and “unmarried,” whereas the current study used the categories “in a relationship,” including those who are married or living with partner, and “not in a relationship.”

Statistically significant correlations between each of the five mental health outcomes (anxiety, depression, PTSD, CPTSD, and compassion fatigue) is also consistent
with a well-established literature on psychological co-morbidities, whereby individuals who meet the criteria for a common mental illness often also meet the criteria for other psychopathology. Experiencing multiple psychopathologies can have significant impacts on the individual. For example, having a comorbidity of mental illness has been linked to lower psychosocial functioning, heightened burden of mental illness and increases the likelihood of the mental illness becoming chronic (Caramanica, Brackbill, Liao, & Stellman, 2014; Hruska, Irish, Pacella, Sledjeski, & Delahanty, 2014; Kessler, Chiu, Demler, & Walters, 2005; Wilk et al., 2006).

Having one mental illness is a good predictor of other mental illness (Krueger, Chentsova-Dutton, Markon, Goldberg, & Ormel, 2003). Individuals with PTSD, for example, are 80% more likely than those without PTSD to develop another disorder (American Psychiatric Association, 2013). Likewise, three in four individuals with PTSD have a comorbidity with another mental illness, of which approximately 50 – 75% have PTSD as the primary disorder (Kaufman & Charney, 2000). Similarly, anxiety disorders have a very high comorbidity rate, with 80-90% of individuals who meet the criteria for anxiety having at least one other lifetime mental health disorder, including two-thirds having a lifetime prevalence of depression (Judd et al., 1998). Overall, the highest rates of comorbidity are for anxiety, depression, and PTSD diagnosis from DSM-IV (Kaufman & Charney, 2000).

Burnout is also associated with both anxiety and depression (Burke, Shearer, & Deszca, 1984; Kahill, 1988). Research has also identified that the symptomology of various mental health outcomes, such as depression and burnout, overlap and may further explain the high correlations observed in this study (Wurm et al., 2016). Some researchers have even identified burnout as a potential form of depression (Schonfeld & Bianchi, 2016). The behavioural symptoms of secondary traumatic stress are also well
known to mirror the symptoms of PTSD (Newell & MacNeil, 2010). The features of the various symptoms of the observed mental health outcomes may therefore explain the significant correlations found in this study.

Consistent with the results of this study, findings of psychiatric comorbidity have also been found among other policing populations. Bowler et al. (2016) found that only 21.8% of police with a probable diagnosis of PTSD did not have a comorbidity. Further, nearly half of the population in the same study had a triadic comorbidity of PTSD, anxiety, and depression. A comorbidity of substance abuse is also common amongst both police and the general population (Ballenger et al., 2011). The results of this study therefore add the limited policing studies, as well as general studies, on burnout and secondary traumatic stress which also include measures of anxiety, depression, and CPTSD.

5.6.3 Service-wide Rates of Adverse Mental Health Discussion

The findings of the service-wide rates of adverse mental health outcomes reflect the broader literature whereby police experience higher rates of poor mental health in comparison to the general population (Hartley et al., 2011). There are, however, unique environmental factors as a result of the post-conflict setting in Northern Ireland. The impacts of the civil conflict have far reaching consequences on the country. Not only has the conflict led to high rates of mental health, but also poor physical health, unemployment, economic inactivity, significant direct and indirect deprivation (Bamford Centre for Mental Health Wellbeing, 2012). All of these factors may contribute to the rates of mental illness found within this sample. Therefore it is plausible that the high rates of adverse mental health outcomes within this sample are a result of: 1) the impact that a policing career has on individuals mental health, particularly that of policing in the
post-conflict setting and 2) the unique context of Northern Ireland, where the general population experience high rates of psychopathology.

Northern Ireland has high rates of psychopathology with nearly one in four (23.1%) people in the population having anxiety, mood, substance use or impulse-control disorder within a 12-month period (Bunting, Murphy, O'Neill, & Ferry, 2013). As part of a study of 30 countries for the Global Mental Health Survey, the Bamford Centre for Mental Health Wellbeing identified Northern Ireland as having the highest rates of PTSD of all countries studied (2012). Within the Northern Ireland general population, the 12-month prevalence and lifetime prevalence of PTSD are 5.1% and 8.8%, respectively (Bunting, Ferry, et al., 2013), respectively. In comparison, this study reported findings of a current probable prevalence of PTSD of 22.2%. Therefore, the findings identify a significantly higher rate, of more than four times, for PTSD amongst PSNI personnel when compared to the general Northern Irish population.

Findings for anxiety and depression were similar, with high rates also reported within the general population of Northern Ireland. In an epidemiological study of Northern Ireland (2013), Bunting and colleagues found a 12-month prevalence of anxiety of 14.6% and 9.6 % for mood disorders, including depression and bipolar disorder. In comparison, the results of this study suggest that the PSNI have more than double the rate of probable current anxiety (34.4%) and probable current depression (36.6%). Overall, Northern Irish police officers and staff have significantly higher rates of adverse mental health than the general population, a result that is congruent with the large number of policing studies on mental health.

While policing populations appear to have high rates of PTSD, anxiety and depression, the PSNI exhibit exceptionally higher rates again than the average police service. A meta-analysis of psychopathology amongst police populations globally
revealed that a pooled point prevalence for PTSD (14.2%), anxiety (10.3%) and depression (14.6%) (Syed et al., 2020); figures which are notably lower than the probable rates of PTSD (22.1%), anxiety (34.4%) and depression (36.6%) within the current sample. These rates of psychopathology are could be partially explained by the unique context of policing in Northern Ireland, whereby individuals who have experienced a conflict-related trauma are significantly more likely to develop PTSD, as well as anxiety and mood disorders, in comparison to those who have experienced a non-conflict-related trauma (Bamford Centre for Mental Health Wellbeing, 2012; Bunting, Ferry, et al., 2013). PSNI officers and staff are often the target of ongoing conflict-related attacks such as terrorist threats, rioting, and working directly with conflict-related crimes, which may explain the high rates of probable anxiety, depression and PTSD within the PSNI.

Because the measure for CPTSD has only been recently introduced in the ICD-11, rates within the Northern Irish population are currently unknown. Because an individual must meet the criteria for PTSD in order to have a diagnosis of CPTSD, both psychopathologies have been identified in the probable rates of PTSD for the PSNI. However, the findings of probable CPTSD in this study may be explained by the complex nature of police work and the cumulative trauma exposure with this work. Research based on the Northern Irish Troubles has identified that individuals who grew up during the height of the conflict were more likely to experience multiple traumas and psychopathology (McLafferty et al., 2016) and many officers are of an age where they would have also experienced conflict-related childhood traumas. Adverse childhood experiences and lifetime traumas are risk factors for CPTSD (as well as PTSD). Considered in combination with conflict-related traumas (which are more highly related to adverse mental health, as explained above) may help to explain high rates of probable
CPTSD (12.3%) in comparison to probable PTSD (9.8%) within the sample (Frewen, Zhu, & Lanius, 2019).

As a part of police work, officers and operational staff are continuously and relentlessly subjected to caring for victims and survivors who have been traumatised. This comes at a cost to the individual’s overall well-being and mental health and this unique form secondary trauma has been termed by Figley, Violanti and Paton as Police Compassion Fatigue (Figley, 1999b; Violanti & Gehrke, 2004). There has been very minimal research of compassion fatigue, which encompasses both STS and burnout, in policing, making the inclusion of such measures in this study an important contribution to the current literature (Andersen & Papazoglou, 2015). Of the few studies that do exist, there are mixed results within the policing literature. While some police population show similarly low rates of burnout to the findings of this study (Kop, Euwema, & Schaufeli, 1999; Martinussen et al., 2007; Papazoglou, Koskelainen, & Stuewe, 2018), various studies also identify elevated rates for police in comparison to other occupations. Similarly, a systematic review by Greinacher, Derezza-Greeven, Herzog, and Nikendei (2019) found that there is a range (from 4 – 13%) of prevalence rates of STS for police amongst the literature.

Studies that have identified high levels of STS tend to focus on specific policing roles, particularly those that work with abused children (MacEachern, Dennis, Jackson, & Jindal-Snape, 2019; Tehrani, 2016). Statistically significant relationships between the type of crime and STS for officers in Family Violence, Child Protection and Sexual Crime units was identified, consistent with the idea that there may be a unique type of exposure that increases the risk of STS (Cronje & Vilakazi, 2020). Due to the diversity of police work, the low levels of STS found in this study may be due to the heterogenous nature of the PSNI. Further investigation should be conducted to identify if particular
units, such as child abuse investigation and rape crime, are at an elevated risk of STS in comparison to the rest of the PSNI.

Martinussen et al. (2007) found that in comparison to other occupations (air traffic controllers, journalists, and building constructors) police had lower scores of burnout. Similarly, Kop et al. (1999) also found low levels of burnout, and specifically emotional exhaustion, when comparing police to non-policing occupations. The low burnout scores found in this study may indicate that the rewarding and positive aspects of police work outweigh the impacts of demand and emotional exhaustion on the job. Previous research has highlighted the positive aspects of police work and that officers often feel a strong sense of reward in their vocation (Brody, DeMarco, & Lovrich, 2002; Johnson, 2012). This job satisfaction may act as a buffer against the development of burnout and secondary traumatic stress within policing. Research on other populations has found a significant negative direct effect of job satisfaction on burnout and secondary traumatic stress (Tosun & Ulusoy, 2017; Wang, H. et al., 2020; Wang, J. et al., 2020). Similarly, officers who felt a greater sense of personal accomplishment as a result of their work report low levels of emotional exhaustion and depersonalisation, two of the core dimensions of burnout (Kohan & Mazmanian, 2016).

The culture of policing should also be acknowledged as a possible reason for the low burnout scores. The “macho” environment of police work may lead police to suppress feelings and resist admitting to any emotional problems (Brown, 2007). During trainings police are often pushed to avoid any emotional expression. As explained by police psychologist, Rudofossi “at the police academy, open expression of fear was unacceptable” (Rudofossi, 2007). Expression of emotions is often seen as weak within the organisational culture of policing (Papazoglou, 2013). Many studies found no difference in gender for burnout amongst police officers (Kop et al., 1999), which may be further
evidence of the organisational cultural impacts of policing due to the adopting of the “macho” mindset by both males and females alike. Together, these findings help to explain why many police studies, including this study, report low levels of burnout and secondary traumatic stress.

5.6.4 Rates of Adverse Mental Health by Branch Discussion

Branches within the PSNI differed in the rates of personnel who met the cut-off score for anxiety, depression, PTSD, and CPTSD, and those who presented with high levels of burnout and STS. These findings are not surprising, given the discrete roles throughout the PSNI, and that each branch, and its subsequent units, are responsible for different operational capacities. These operational capacities lead to a wide range of type, frequency and severity of trauma exposure and stress based on the role type. Some types of trauma and stress exposure can have greater consequences for mental health, with those branches and units with greater exposure at higher risk of adverse mental health outcomes. Many policing studies have identified that the heterogenous nature of exposure in police work results in varying degrees of psychopathology (Habersaat et al., 2015; Henry, 2004; MacEachern et al., 2019; Maceachern et al., 2011; Turgoose, Glover, Barker, & Maddox, 2017). The type of stressors that individual units or teams experience are often distinct to their job role (i.e. special forces, child abuse investigation or rape crime) (Garbarino et al., 2013). Although there were variations in rates of adverse mental health outcomes, most were not statistically significant.

Additionally, a comparison of mean mental health scores showed varying outcomes across the branches. While no differences were found for anxiety and PTSD across the branches, branches did differ on levels of depression, CPTSD, burnout and STS, although all effect sizes were minimal. Specifically, significant differences were
found between the Crime Operations branch and the District Policing branch, whereby District Policing had higher mean scores for depression, CPTSD and burnout.

District Policing is subject to much uncertainty, as they are often first response officers and deal with a variety of cases in the field. As described by Van der Kolk et al. (1996), the first stage of trauma, the “anticipation of trauma,” is an important but often overlooked aspect of trauma-related mental health outcomes. The anticipatory stress associated with being a response officer in District Policing may therefore be associated for these observed greater rates of adverse mental health outcomes. In addition, this observation may be explained by the requirement for new recruits within the PSNI to serve two years in district policing before they are able to transfer to another branch. It may be possible that police early in their careers may not yet have developed the necessary coping skills to protect their psychological well-being on the job, as it has been identified in previous research that police with less experience is related to increased levels of psychiatric distress (Marmar et al., 2006). Research has identified that self-coping efficacy can be learned and enhanced as a result of in-service police trainings, and thus this type of coping may not have yet been acquired by new recruits within District Policing (Band & Manuele, 1987). New recruit trainings may benefit from incorporating particular lessons in coping strategies and emotional stability, particularly for those entering District Policing.

Mean scores for STS differed significantly between the Administrative-based branches, who had lower average scores of STS when compared to all other branches. This is likely due to the lack of encountering victims of crime for the Administrative-based branches. In contrast, the Crime Operations, District Policing, Legacy and Justice, and Operational Support branches have an operational capacity where they are working in the community and are directly and vicariously exposed to trauma. Working directly with
traumatic materials and victims who have experienced traumas such as abuse, rape, and assault is a precursor to STS. It is this vicarious traumatisation, described by Pearlman as “a process of [cognitive] change resulting from [chronic] empathic engagement with trauma survivors” experienced by officers and staff that makes them more susceptible to the development of STS, something that the Administrative-based branches do not encounter in their jobs (Pearlman, 1999).

Although there were statistically significant differences in mean scores based on branch, results indicated that this was not always the case when comparing rates of a probable diagnosis. It was identified that there were statistically significant differences in probable diagnosis of CTPSD between branches, although the effect size was small. There were no statistically significant differences in rates of personnel who met the cut-off score between branches for anxiety, depression, PTSD, burnout and STS. The lack of significant findings for the majority of these mental health outcomes may be explained by the vast amount of literature surrounding poor mental health in policing being most highly related to organisational stressors, as opposed to operational stress. While police experience a range of traumatic exposures and stressors as a result of their operational work, much of the research has identified that it is organisational stressors opposed to the operational stressors that leave officers most susceptible to adverse mental health (Deschênes et al., 2018; Kohan & Mazmanian, 2016; Tuckey et al., 2010).

More specifically, a systematic review found that demand, job pressure, organisational pressure, lack of support and long working hours were most consistently significant with adverse mental health outcomes amongst police (Purba & Demou, 2019). Therefore, while police are exposed to a range of potentially traumatic and stressful situations, research has suggested that police embed individual coping strategies within their personalities that result in them accepting the stressful nature of the job, leading to
increased resilience (Band & Manuele, 1987; Garbarino et al., 2013; Ward, 1979). This is achieved through an adaptation to the culture of policing and to the operational stressors involved with police work. The heightened impacts of organisational stressors over operational stressors may help to elucidate the comparable rates of adverse mental health in this study.

Additionally, the context of policing in a post-conflict Northern Ireland may also contribute to these findings. Regardless of what branch an officer or staff works in, they are subject to the same terrorist threats and security concerns as a result of working for the PSNI. In Northern Ireland the terrorist threat against the PSNI remains significant with a number of attacks against PSNI personnel still occurring across the country on a regular basis (Lindsay, 2018b). The lack of differences found amongst branches in this sample may be described by the overarching context of police work in a post-conflict setting, where all personnel experience similar stress regarding security-related issues.

5.6.5 Key Risk Factors Discussion

While there are unique risk factors for each of the psychological outcomes, psychological outcomes also share many similar types of risk. All mental health outcomes identified individual and organisational risks, though operational risks were not statistically significant for some outcomes.

5.6.5.1 Individual factors

Individual risk factors, and specifically personality and coping style, accounted for the most variance across all mental health outcomes. Among personality traits, emotional instability, introversion, agreeableness, and openness to experiences were significantly associated with adverse mental health outcomes. Emotional stability was negatively associated with anxiety, depression, PTSD, CPTSD, burnout and STS; being the strongest predictor for anxiety and PTSD, second strongest predictor for depression and CPTSD,
and third strongest predictor for burnout. This finding is consistent with other literature on policing, which also identified correlations between neuroticism, or lack of emotional stability, and anxiety, depression, PTSD, burnout and STS (Andrew, Mnatsakanova, et al., 2013; Garbarino et al., 2013; Jenkins et al., 2019; Pineles et al., 2013; Tehrani, 2016; Yuan et al., 2011). Although neuroticism is a risk factor for psychopathology, police appear to have lower levels of neuroticism in comparison to the general population (Krick & Felfe, 2020). Neuroticism has also been linked to a reduction in resilience, which may provide further insight into its relationship with psychopathology (Campbell-Sills, Cohan, & Stein, 2006).

Additionally, in this study extroversion was negatively associated with depression, PTSD, CPTSD and burnout. Previous literature has also found similar results, where extroversion was associated with more favourable mental health outcomes in comparison to introversion (Lockenhoff, Terracciano, Patriciu, Eaton, & Costa, 2009). Previous policing research has identified that more introverted officers had higher posttraumatic stress (Skogstad et al., 2013). It is likely that introversion is congruous with other personality variables, such as neuroticism, and is a feeling-based personality that can influence the onset of depression (Janowsky, 2001). Agreeableness was negatively associated with burnout, as consistent with other policing research (De la Fuente Solana et al., 2013). In contrast to this study’s null findings, many studies on police have identified a negative relationship between agreeableness and depression, anxiety, PTSD (Andrew, Mnatsakanova, et al., 2013; Garbarino et al., 2013). Openness to experiences was associated with PTSD in this study, however other studies on policing found have found no association (Yuan et al., 2011), or that openness to experiences was only associated with PTSD among female officers (Andrew, Mnatsakanova, et al., 2013). It is interesting to note that conscientiousness, which some see as a proxy indicator of
emotional regulation, was not significantly associated with any of the mental health outcomes given that emotional regulation is noted to reduce the risk of PTSD (Yuan et al., 2011).

Overall, the results of this study are consistent with a broad literature linking certain personality traits to an increased risk for psychopathology. While personality, particularly neuroticism, is associated with worse mental health outcomes, there is minimal research on police populations. Due to the recent development of CPTSD as part of the ICD-11, there remains a paucity of evidence on the associations between personality traits and CPTSD outcomes. This research suggests that among police officers, neuroticism and introversion both serve as risk factors for a probable CPTSD diagnosis.

Coping style, and specifically avoidance coping, was another strong predictor of probable anxiety, depression, PTSD, CPTSD, burnout and STS diagnoses. Exposure to acute stressors, namely critical incidents and traumatic exposure often experienced by police, can impact an individual’s ability to cope (Mitchell & Bray, 1990). Research has found that police tend to use coping mechanisms that actually increase their levels of stress rather than alleviate stress (Violanti, Marshall, & Howe, 1983). Police often detach from their feelings and thus choose to not confront their emotions (Kureczka, 2002). When coping with stressful situations by avoiding thinking of feeling things that make an individual feel uncomfortable through changes in behaviour an individual avoids stressors instead of dealings with them to alleviate the stress (American Psychological Association, 2020). Therefore, chronic exposure to stress and trauma common among police officers may lead to more negative coping styles if positive coping styles are not established.

Avoidance coping, when used instead of positive coping strategies, such as emotion-focused coping and problem-focused coping, increases the risk
psychopathology, is positively correlated with PTSD and has been shown to partially mediate the relationship between neuroticism and PTSD symptoms (Mattson, James, & Engdahl, 2018). Further, avoidance coping has been shown to mediate the relationship between burnout and STS (Hamid & Musa, 2017). The findings from this study are therefore consistent with other research indicating that avoidance coping can increase the risk of burnout (Maslach, Schaufeli, & Leiter, 2001), STS (Hamid & Musa, 2017), depression and anxiety (Andrew, Mnatsakanova, et al., 2013).

The positive correlations found between stigma and the various mental health outcomes of this study parallel findings in other policing research. Similar to the findings of this study, Soomro and Yanos (2018) found that officers who met the criteria for current PTSD endorsed stigma against mental illness at higher rates than those who did not meet the criteria for PTSD. The findings of this study may be explained by the negative role that stigma plays for the individual. Stigma often dehumanizes and objectifies individuals with mental health disorders and may further impact on the negative well-being of those individuals. There is a particularly large stigma perpetuated by the PSNI as an organisation with relation to an employee’s ability to be promoted if they have been identified as being mentally unwell. There is often a lack of trust when an officer is seen as psychologically “weak” and that officer will not be able to provide adequate back up in dangerous situations (Stanley, Hom, & Joiner, 2016). Additionally, within the PSNI there is a large fear among officers of having their firearm removed and the additional stigma that may be associated with being an unarmed officer. As a result, many officers and staff may not disclose that they are suffering with their mental health.

While there is limited evidence of the role of stigma on mental health outcomes for police populations (Soomro & Yanos, 2018), within the general population it has been shown that increased mental health stigma is associated with greater self-concealment.
(Masuda, Anderson, & Edmonds, 2012). It is also well-known throughout the literature that self-concealment, or social isolation, is highly associated with negative mental health and reduced well-being (Cornwell & Waite, 2009; Miyawaki, 2014; Shankar, Hamer, McMunn, & Steptoe, 2013) and increases the likelihood of developing a mental health disorder (Coyle & Dugan, 2012). Therefore, PSNI officers and staff may experience additional psychological suffering as a result of the stigma associated with their psychological condition.

The positive relationship between stigma and poor mental health outcomes may further be explained by the delay in seeking mental health services as a result of the stigma associated seeking treatment. Although there is remains a paucity of research with regards to policing populations, within general populations it has been found that those with a high perceived need for mental health services and with high levels of stigma have a reduced likelihood of accessing mental health service (Wu et al., 2017). These findings are particularly prevalent among males, who report higher levels of stigma against mental illness in other studies (Stanley et al., 2016). As a result, individuals who are most in need of psychological care provided by the PSNI’s Mental Health Services (MHS) are not accessing necessary care, which may further exacerbate their psychological condition.

Overall, the high rates of stigma within the PSNI align with other research on stigma and policing, whereby the endorsement of negative stereotypes for people with mental illness is higher within police populations compared to the general population (Soomro & Yanos, 2018).

Stigma was also a significant predictor of most mental health outcomes, with the narrow exception of PTSD. Mental health stigma appears to be widely endorsed in many Western populations and even professionals within the mental health disciplines often stereotype individuals with psychopathology (Corrigan & Watson, 2002). It has been
described that police themselves are suspicious people and find it difficult to confide in other people and instead isolate their feelings (Kureczka, 2002). Mental health stigma can make police hide their emotions for a fear of looking “weak” in the workplace if they were express their emotions (Twersky-Glasner, 2005). This emotive dissonance, where an individual feels one emotion inwardly but feels they must outwardly display another, can have implications for mental health outcomes. For example, Bakker and Heuven (2006) found that emotive dissonance was linked to higher levels of burnout. Further, feeling supported and cared for by family and friends can reduce the negative impact of stigma on mental health, underscoring the importance of social support (Veale, Peter, Travers, & Saewyc, 2017).

Furthermore, coping with mental health stigma requires self-regulation and can lead to a reduced ability to control behaviour, thus having the potential to further exasperate a poor psychological condition (Vertilo & Gibson, 2014). This is particularly relevant for the results of this study, where negative coping was also highly correlated to poor mental health. Therefore, when an individual employs negative coping styles and also feels the potential for the stigmatisation of their psychological condition, the negative impacts on mental health may compound.

Mental health stigma has also been associated with poorer quality of life, reduced functioning, and other negative health outcomes (Kane et al., 2019). Further, those who experience stigma, either by the public or self-stigma, are less likely to seek mental health treatment, resulting in an increase in symptomology. Some studies have found that the fear of stigma can result in as many as 75% of individuals with severe psychopathology to delay seeking treatment (Lahariya, Singhal, Gupta, & Mishra, 2010). Within the policing literature stigma has been identified as one of the main reasons for not seeking treatment (Stuart, 2017). In response, and to reduce stigmatisation of those who seek
mental health services within policing, research has found that an enhancement of social intelligence may be of value (Vertilo & Gibson, 2014). Social intelligence has been described as a character strength whereby an individual is able to understand others and take part in a variety of different types of social interactions (Hooda, Sharma, & Yadava, 2009). The positive association between perceived stigma and symptom severity is demonstrated throughout the literature (Kane et al., 2019). Addressing mental health related stigma is a crucial component to maintain good psychological well-being within policing. By reducing the stigma associated with what should be deemed normal responses to stressful and traumatic situations in police work, it may be possible to reduce the heightened psychopathology found in police populations.

The sum of adult traumas experienced outside of work for PSNI personnel predicted probable depression, PTSD and CPTSD. As the number of traumas increases, both in one’s personal and professional life, so does the psychological risk associated with them (Briere, Agee, & Dietrich, 2016; Papazoglou, 2013). As described above, as an individual experiences an increasing number of traumatic exposures their ability to cope with the stress diminishes, resulting in an increase in psychopathology. In contrast, literature has also identified that as individuals experiences traumatic situations they can become more resilient (Resilience and mental health, 2011). Research also supports the resilience perspective, where positive coping strategies for previous traumas can build resilience and act as a protector of PTSD in future traumas. A systematic literature review found that the vast majority of studies on emergency workers do not identify any associations between civilian trauma exposure and mental health outcomes. Within a police population, Inslicht et al. (2010) identified trends between civilian trauma, peri-traumatic dissociation and symptoms of PTSD, however they did not directly test these relationships. The relationship found between adult trauma exposure and probable
depression, PTSD and CPTSD may therefore be more so linked to the type of trauma exposures experienced by PSNI personnel as a result of living in a post-conflict setting, which have specifically been shown to increase the risk of psychopathology (Bunting, Ferry, et al., 2013; Turkington et al., 2016). Therefore, police who have a history of conflict-related trauma exposure are significantly more at risk of developing anxiety and mood disorders, as well as PTSD (Bamford Centre for Mental Health Wellbeing, 2012; Bunting, Ferry, et al., 2013).

Smaller associations, although statistically significant, were found between education and probable diagnosis of depression, as well as having children and a probable diagnosis of PTSD or CPTSD. The findings of a positive relationship between education and depression are unique to this study. Prior research has almost exclusively found that there is a negative relationship between education and depression, where the severity of depression decreases as education level increases (Bauldry, 2015; Miech & Shanahan, 2000; Olaya et al., 2015). However, some research has identified that an education level of postsecondary and lower was associated with maintaining good mental health in a stressful work environment (Skuzińska et al., 2020).

Although limited evidence exists in the policing literature, Violanti et al. (2011) found non-significant but suggestive linear trends whereby as education decreased, depression symptoms increased among male officers. The contrasting findings from this study may be a result of the participants in this sample all being from the same occupation, where education levels have long been related to occupational opportunities and income (Budoki, 2009; Mayhew, 1971). Additionally, research has found that police who have higher education are more likely to become bored in their job and have lower job satisfaction which may lead to depression (Balci, 2011; Shane, 2010).
With regard to having children as a risk factor for PTSD and CPTSD, these findings may be due to the nature of some police exposures in working with abused and neglected children. It has been found that when an individual identifies and relates to the trauma of another that they are more likely to display psychopathological symptoms. Hartley, Violanti, Sarkisian, Andrew, and Burchfiel (2013) found that when an officer is involved in a case of child abuse that it can be particularly difficult when the officer can personally relate to the victim through being a parent themselves. Therefore when a PSNI police officer or staff are themselves parents and work with child victims, this may increase their risk of developing PTSD and CPTSD.

The finding from the present study that individual factors are the strongest predictors of adverse mental health outcomes has profound implications for the PSNI, particularly with regard to new recruits. It may be possible to identify new recruits who have a ‘high-risk’ individual profiles and provide them with specific trainings to enhance protective factors, such as coping style. Additionally, if those who are at an increased risk are identified early in their career, it may be possible to place them within roles which are more suited to their personality, coping style and personal circumstances.

While the impacts of personality, coping, and gender are widely studied within the policing literature, there is a lack of evidence regarding the impacts of perceived stigma, educational attainment, and having children on mental health outcomes within policing populations. The current study adds to the extant literature by expanding our understanding of the relationship between these various individual factors and mental health outcomes.

5.6.5.2 Operational factors

Overall, there were minimal statistically significant findings for the impacts of operational factors on mental health outcomes. Probable anxiety and burnout were not
explained by any of the operational factors and probable depression was only predicted by the region that PSNI personnel work. These results align with much of the policing literature which find that police are often resilient against the operational exposures they confront in the line of duty. This is likely due to police being aware of the operational capacities of the job and the high levels of critical incidents that they will encounter even before they start in the police service. The resilience developed during new recruit trainings also likely plays a part in protecting police against the development of depression, anxiety and burnout. Also, burnout is much more highly related to organisational stress such as workload rather than operational factors (Kula, 2017). The relationship between depression and region of work may be due to the type of crime in particular areas of Northern Ireland, where some regions experience an increase in critical incidents. However, further investigation should be made into the association within this sample to explore this relationship in more detail.

The only operational factor that predicted PTSD, CPTSD and STS was the sum of different types of critical incident exposures. The exposures capture in this study included both primary and vicarious traumas, both which predicted PTSD, CPTSD and STS. PTSD and CPTSD are often found in primary trauma experiences, whereas STS is associated with exposure to secondary, or vicarious, traumas as a result of working with victims of primary traumas. These findings are consistent with the broader literature on emergency workers, which has identified that cumulative exposure to trauma over one’s career is an important risk factor for the development of psychopathology (Harvey et al., 2016).

The type of traumas that an officer or staff encounters can vary greatly. In one shift an officer may attend a homicide scene, then the next hour tend to a case of child maltreatment, followed by a case of sexual assault. The findings from this study suggest that it is this variation and accumulation of different types of traumatic exposures over the
career of a police officer or staff that predicts the onset of probable PTSD, CPTSD and STS. Previous studies have also identified this trend, although most studies look generally at rates of trauma exposure in policing rather than the prolonged exposure to various types of trauma (Papazoglou, 2013). This concept aligns itself with Police and Public Safety Complex PTSD described by Herman (1992) and Rudofossi (2007), which considers the ecological context of policing and posits that Police Complex PTSD expands over time through a variety of different types of exposure, both direct and indirect. This conceptualisation is further consistent with the Complex Police Spiral Trauma (Papazoglou, 2013), whereby police are negatively impacted by both the frequency of exposures and types of exposures, and the long-term nature of this exposure impacts an officer throughout their career.

5.6.5.3 Organisational factors

The most common organisational factor to predict adverse mental health outcomes was PSNI-related stress, which significantly predicted anxiety, depression, PTSD, CPTSD and burnout. PSNI-related stressors included various internal procedures identified as stressful by interview participant including: internal investigations, refusal of flexible working hours, investigations with the ombudsman, absence management procedures, suspension from work, being arrested due to an incident that occurred on duty, having your home or property seized, being subject to a campaign of bullying, dropping to half pay as a result of injury on duty, attending an industrial tribunal, perceived organisational injustice, and cancelled leave. Many of the PSNI-related stressors place the individual officer or staff member in a vulnerable position. It is likely that an individual undergoing these stressful internal procedures feels ostracised from the organisation, and may experience a lack of control. Use of the Demand Control Support model has also found
that as job control decreases within policing populations, the risk of adverse mental health increases (Garbarino et al., 2013).

Individuals who have a perceived external locus of control are known to be at a greater risk of adverse mental health outcomes (Marmar et al., 2006). Given the loss of control to the organisation for many of these internal procedures, it is plausible that this loss of control is what accounts for PSNI-related stress and probable the associated psychopathologies. Additionally, when the locus of control is external to the individual it can lead to lower levels of self-esteem, which may be particularly important in the mental health of police (Fitch, 1970). Although minimal research has been conducted on the role of self-esteem and police mental health, a study by Andrade, Sousa, and Minayo (2009) found that self-esteem, along with quality of life, were essential in maintaining good mental health for police. STS however was not predicted by PSNI-related stress. This may be due to the nature of STS where the primary risks revolve around vicarious or secondary trauma exposures, which were not assessed by the PSNI-related stress variable.

Security-related concerns such as having your life or your family threatened, having to move house due to security threat, or frequently checking underneath your car for an explosive device, were predictors of PTSD and STS in the current sample. As previously outlined in this section, conflict-related traumas significantly increase the likelihood of the development of PTSD, however this had not been well-researched amongst policing populations. This finding therefore represents a unique contribution to this area. While assessment of security-related concerns did not capture the nature or severity of the event, results indicate that it is likely that the majority of security-related concerns were severe enough to potentially lead to a probable diagnosis of PTSD or STS.

The positive relationship between STS and security-related concerns, as assessed by questions regarding threats to family such as “my family has been the subject of
personal threat” and “my family has been the subject of a personal terrorist attack”, therefore likely resulted from hearing about the trauma of another individual, which would have been the case for the family-based situations. Additionally, symptoms of STS have been found to reflect the symptoms of PTSD (Newell & MacNeil, 2010), and thus it is unsurprising that both of these psychological outcomes were identified at the same time.

Perceived organisational support predicted probable CPTSD outcomes but was not associated to other mental health outcomes. These findings are incongruent with previous literature that has identified perceived organisational support as a predictor across a variety of psychological outcomes (Brady, 2016; Garbarino et al., 2013; Kunst, Rutten, & Knijf, 2013; Martin, Marchand, & Boyer, 2009). However, within the cultural context of the PSNI, it is possible that police do not seek support from within the organisation and instead rely more heavily on social support outside of work, which has been identified as a significant protective factor in police research (Maia et al., 2011; Martin et al., 2009). The Health and Safety Executive’s Management Standards Indicator Tool also measured peer support and managers support. This study found no relationship between the various mental health outcomes and manager support; however it did identify that peer support was negatively associated with burnout.

Outside of manager and peer support, many of the organisational stressors captured on the Health and Safety Executive’s Management Standards Indicator Tool (HSE indicator tool) explained unique variance for the different mental health outcomes. Specifically, demand predicted probable anxiety, depression, burnout and STS, consistent with the known impact of demands on mental health across various occupations (Newell & MacNeil, 2010; Proost, Witte, Witte, & Evers, 2004). While there is a paucity of research of the HSE indicator tool in police populations, of the studies that have used this
measure, similar findings were produced (Houdmont, Kerr, & Randall, 2012; Houdmont, Randall, Kerr, & Addley, 2013). So while policing is known for having particularly high job demands that are time-sensitive in nature, as a result of the austerity identified in the preliminary interviews, the increased workload and demand on PSNI officers and staff may have contributed to greater adverse psychological outcomes. The job demand-resources model outlines that high job demands and too few resources make a unique contribution to adverse mental health, particularly for burnout (Demerouti et al., 2001). Results from this study are therefore consistent with others where job demands were found to strongly predict fatigue amongst police in previous studies (Andersson, Larsen, & Ramstrand, 2017). It is therefore recommended that police agencies to try and maintain a more manageable level of job demands to ensure the well-being of their officers.

Role was also negatively associated to high burnout and STS, suggesting that when an individual is unclear about their job role, it puts them at an increased risk for burnout and STS. This outcome has been found in previous literature as well, where role ambiguity predicted burnout (Kumar & Kamalanabhan, 2017). Probable anxiety and depression were also both associated with negative relationships. This finding is unsurprising as the negative relationships concept within the HSE indicator tool focuses on bullying and friction between colleagues in the workplace. Literature on bullying in the workplace has identified similar results (Wu, He, Imran, & Fu, 2020). Finally, both peer support and change (how organisational change is managed) were negatively associated with burnout. It is clear that the organisational factors associated with the HSE indicator tool play an important role in understanding the functioning of the organisation and the subsequent probable psychopathologies found in this study. This is the first study to use the HSE indicator tool as a measure of organisational stressors and how these
related to mental health outcomes, thus this study makes a unique contribution to the literature.

While currently there are no validated measures that identify the risks associated with the organisational culture of policing, much of the literature describes its impact on mental health outcomes. For example, Deschênes et al. (2018) found that the organisational culture of the police force, along with leadership style, influenced mental health outcomes more strongly than the actual job itself. Much of the psychological stress that officers and staff face in the police service are a result of institutional-level pressures (Fox et al., 2012). The organisational culture of police work may lead to the stereotyping of police who do not fit into a particular mould of what is deemed to be the police “norm”. Labelling theory suggests that mental health is negatively influenced by labelling and can cause an individual to feel isolated, leading to a reduction in their coping abilities (Link, Cullen, Struening, Shrout, & Dohrenwend, 1989).

While perceived mental health stigma was analysed as an individual factor, as the measure used identified an individual’s indifference to stigma, there is an important organisational component to this concept. Police culture plays a large role in shaping an individual’s thoughts and beliefs and has the potential to influence feelings of mental health stigma. Internalised stigma of mental health, where police stigmatise one another, is pervasive within police services and results in negative consequences for the mental health of officers (Stuart, 2017). This is largely due to the association of individuals who show emotions as being “weak,” as discussed earlier in this section (Twersky-Glasner, 2005). In comparison to other occupations, those who work in police are much less likely to seek treatment for their mental health (Mind, 2013a). There is an organisational fear of disclosing one’s poor mental health for fear of becoming stigmatised and receiving negative reactions from colleagues (Stuart, 2017). Future research should attempt to
identify and quantify the impacts of police organisational culture and its related mental health stigma on officer and staff mental health.
Chapter 6: Focus Group Results

The focus group discussion provided insightful and important information for addressing objective four, the development of the recommendations towards a risk management strategy for the PSNI. As outlined in Section 3.8, the focus group took place after members attended a presentation presenting the results of Chapter 4. The topics of the focus group were centred around the practical implications and challenges of each recommendation. From the results of the survey in Chapter 5, the following six recommendations were put forward: 1) annual psychological screening of the entire service, 2) new recruit screening of individual risk factors, 3) implementation of trainings to enhance coping and emotional stability, 4) review of the demand placed on officers and increase force strength, 5) implement exercises and trainings to increase support throughout the service, and 6) review the current internal procedures regarding absence management, investigations, etc. This chapter will outline how these initial six recommendations evolved as a result of the participatory process of discussing each recommendation with key stakeholders.

6.1 Results

Overall, the six recommendations towards risk management within the PSNI received very positive feedback. In addition to the focus group comments, one participant from the focus group called to discuss the focus group follow-up document (Appendix E), which was emailed to all eight participants. The comments from the single participant who gave additional feedback have been incorporated into the results presented in this chapter.

6.1.1 Recommendation 1: Annual Psychological Screening of the Service

Participants were positive about the implementation of recommendation one. In fact, implementing an annual psychological screening for the service has been a topic of
discussion within OHW for some time, but without adequate evidence or resources to justify its implementation, annual screening has yet to take place. Participants expressed that the current study now provides the empirical foundation, as well as a psychological screening tool, to move this recommendation forward, “to all officers, to the whole service – officers and staff” (Participant 6). Although a tool to use for the psychological screener has been developed as a result of this study, there remains the issue of austerity in the resourcing of this recommendation, as well as the other recommendations. For example, participant 1 stated, “it’s [psychological screening] totally possible with the tool you have, but of course we need the resource to be able to do that…”. The lack of resourcing must be addressed in order for the psychological screening and other recommendations to be implemented successfully, as there are currently staff shortages within OHW and no person to oversee psychological screening of the service.

This recommendation was identified as an opportunity to not only respond to cases of clinical cut-offs for various mental health diagnoses but to also intervene with those who are just below cut-off, in order to prevent further deterioration of the psychological condition. As participant 3 explained, “the assessment will allow us to say this really requires a brief review of the individual where we would go through the screen with them check out what their needs are so it’s not full blown case-ness but there are some concerns and that’s an opportunity to chat through with them”. Participants also expressed concern however, over the demand created by the cut-off score approach. As highlighted by participant 3, “it’s really then just thinking about the numbers of people who would require assessment and essentially treatment coming out of that, an annual screen could be exponential in terms of the need” as well as the lack of resources to properly treat those identified as at risk by the psychological screener:

*We are going to introduce this, currently there are about 7,500 officers, but you’re looking at screening 7,000+ officers and then you’re looking at the*
resource we would require first of all to coordinate that and secondly to, if possible, clinical threshold fallout which could be as high as 25% and then how we resource our service and this all links into the governance paper [reports provided to the Chief Constable] which will then also require a business case then for team expansion and then obviously it requires us to get those people in the service if we can, associated with all of the barriers we have so far in getting people into the service... (Participant 6)

When we are screening and we identify individuals who are vulnerable, have a diagnosis for anxiety, depression, PTSD, whatever it is, we obviously then need to provide them with the appropriate and relevant intervention as soon as possible, and we need to have the staff to be able to do that. There is no point in doing this and having people sitting on a ten-month waiting list (Participant 3)

Participant 3, who had had the chance to meet with the Deputy Chief Constable prior to the focus group with regards to the recommendations, further added that “I think the timeline is important, in terms of trying to give the organisation a timeline. I did have a really early informational discussion with the deputy last week about how he should consider the introduction of this [psychological screening]”. The deputy is a part of the Senior Executive Team (SET) and works alongside the Chief Constable (highest ranking officer of the PSNI) in making decision for the PSNI, and thus his approval in the recommendations would greatly increase the chances of their uptake.

It was also noted that the implementation of a service-wide psychological screener could be met with non-compliance from the officers and staff asked to take part. As participant 5 explained, “People might be suspicious. It [psychological screening] could feel like an invasion of privacy. Maybe it would be more acceptable if it was voluntary?” As a result, it was suggested by Participant 3 that the implementation of the psychological screener could “start with high risk roles as it would be justified to them” and then further expand throughout the service. Further, participant 5 stated their concern that “If you suddenly say about psych screening that might meet some resistance people might not answer honestly and would make data unreliable”. The potential lack of compliance from
officers and staff may stem from the stigma associated with being vulnerable and ‘opening up’ about challenges with one’s mental health.

Another comment was made regarding the public perception of the PSNI and the high rates of poor mental health that were found from this study and the further annual psychological screening in the future. Consequently, there was concern around the publicizing of the current study findings and future findings and the impact that this may have on public confidence in the service:

There probably is another issue as well, getting those numbers – with over 30% anxiety... 22% PTSD... there is a public perception as well that needs to be managed here. Whenever Joe public sees a police officer and he knows that 30% have mental health illness there is a public confidence thing that needs to be managed and quite possibly would be a significant issue for the organisation and the policing board. Can we have armed police officers when over 30% are suffering from significant mental health illness? (Participant 2)

There is a potential for people to make mischief with the figures and for the service. Outside of the police environment we can expect that there could be a bad headline, so the figures do create a challenge for the organisation to manage (Participant 4)

The PSNI often receives negative press and the concern around the potential impact that psychologically screening of the service could on to public perception is an important factor to consider. However, psychological screening results should be held under the strictest of confidence within OHW. The psychological screener purpose is to provide mental health services to those who are suffering from, or are at risk of, adverse mental health outcomes and not for public scrutiny.

Participants followed up to highlight that there is a need to address the psychological screening as a fitness for work assessment and the consequences of having to remove firearms as inevitable, but there was concern about how to navigate this sensitively. The removal of firearms is a significant stigma for officers within the PSNI and was highlighted several times in the focus group:
There is a huge bit of work that needs to be done with relation to an armed service. The facts and the removal of the gun and the effect that has on individuals and it also keys into whether these individuals have behavioural and personality aspects where they should be armed or shouldn’t be armed and how the organisation deals with that (Participant 6)

How we present our services, the difference between therapy and fitness for work assessment and how does that play out into the whole arena with the firearms issue. That’s something we can’t ignore but how do we deal with it? (Participant 2)

Although unintended consequences may occur as a result of any organisational change, the consequence of identifying high rates of poor mental health in the service could lead to further concerns of public perception as well as if personnel are fit for duty. However, it was discussed that regardless of the consequences that may unfold as a result of implementing psychological screening, that these must be addressed to ensure adequate uptake of the recommendations For example, participant 3 states, “I do believe there are going to intended and unintended consequences so then we have to make decisions about what do we do with that [recommendations] and how do we deal with those as an organisation and how do we inform the organisation of these high level decisions”. With this in mind, it is essential to be methodical and realistic about this recommendation, and the other recommendations, and take the necessary time to develop strategies that will allow the recommendations to reach their full potential. As a result, there have been several implications to the recommendations to ensure strong utility.

Overall, this recommendation received much positive feedback but the focus-group also raised some important challenges that must be thoroughly thought through. The need for psychological screening to ensure the well-being of the service despite these challenges was exemplified by participant 3, “It’s about being proactive I suppose but it’s the proactiveness around highlighting the need for treatment and we are missing all those people and we see them in 25 years when they are utterly unavailable to society if you
like for the rest of their lives”. Currently, OHW feel that there are many officers and staff who are ‘slipping through the cracks’ and are not being seen for problems related to their mental health until towards the end of their career when they have severe psychological deterioration. Despite the challenges that implementing a psychological screener across the service may bring, it was undoubtably identified as an important recommendation to the service. As a result, there have been several implications to the recommendations to ensure strong utility which will be discussed later in this chapter.

6.1.2 Recommendation 2: Pre-employment Screening

The importance of individual risk factors emerging from the survey analysis, suggests that screening for maladaptive coping, previous trauma, and other significant correlates at the point of entry into the PSNI may help to reduce overall rates of adverse mental health outcomes within the PSNI. The discussion around recommendation two was also positive overall, and participants generally felt that it was a good strategy to implement. However, and similar to the recommendations of annual psychological screenings, participants did express that potential new recruits might find this practice invasive, and that results may be unreliable if new recruits felt that their endorsement of symptoms might, in some way, negatively impact their careers. This was exemplified by a statement from participant 4, “people may underplay, they may not tell the truth”. Therefore, participants discussed presenting this screening not pre-employment screening, which could be viewed as hiring criteria, but rather as a new-recruit screening to ensure that newly employed PSNI personnel are fit for their role. The implementation of this recommendation would focus on identifying new officers and staff who may be at an increased risk of being negatively impacted in their operational role. As outlined by, participant 3:

*So this would mean we aren’t excluding people but we are keeping a close eye on those, we can screen more often and see where they are and which groups they are going into and maybe be able to give them advice about what wouldn’t be suitable for them to do, for example with child sexual abuse we could say I*
Concerns around unintended consequences were also brought up with regard to the new-recruit screening (formerly pre-employment screening). Further feedback was given around the challenge of implementing this recommendation in practice, given the current practice of placing new recruits directly into District Policing, identified as one of the higher risk branches in the Section 5.7 of this study, for the first two years following their training at the college of policing. The question arose around the actions that should be taken as a result of screening a new-recruit. As participant 3 highlighted:

_It’s an important question. When someone comes into the college do they have to do the two years in district policing and we are looking at the changes in making recommendations for adjustments and the question is then do they change their training and do they change their approach to the two years in district and can they bypass that then and move people into other areas. And that then has maybe already started so this figures into that as well._

Specifically, discussions focused on whether it would be appropriate to place new-recruits into roles based on their individual profiles, as something that the PSNI has never done before. It may be a challenge to change the status quo, with participant 6 stating, “I wanted to make the point that it doesn’t have to be that people always have to serve their time (in District Policing) but that’s a big cultural piece”. Participant 4 continued further to emphasise that screening new recruits could lead to significant organisational change, “Do people start out in District Policing and spend their time there or do we stratify them from the beginning in terms of something like this? Place them where their skills and strengths are within the organisation and accept that that might always be the case?”

The initial development of this recommendation was to monitor those who enter the services with a potentially high risk individual profile for the development adverse mental health outcomes. However, placing individual recruits into more suitable roles based on their personality, background, and coping styles is also a possibility. Proposed changes with this process were discussed however, with participant 4 stating that “[where to place new
recruits] is a part of the conversation that is happening nationally…” This recommendation may therefore provide further support for organisational changes as to where new recruits are placed following a screening process.

Participant 2 also highlighted the need to include a measure of Adverse Childhood Experiences in the new-recruit screenings, asking “so if we were going to do the new recruit screeners could we include ACE’s? It allows us to predict potential dissociation which is the avoidance risk factor”. While the results of the survey did not find that ACE’s were statistically significant in predicting any of the mental health outcomes, it was identified that adults adverse experiences predicted PTSD and CPTSD. Therefore it would be justified to include the measure of adverse life experiences from the survey (which includes both experiences from age 18 and under as well as age over 18), as outlined Section 3.7.4.2.

6.1.3 Recommendation 3: Implementation of training to develop positive coping strategies

Participants strongly favoured the implementation of recommendation 3, viewing the development and delivery of such training as “beneficial to individuals” as well as “a huge area of work which is absolutely necessary”. In addition, this recommendation was viewed as one that “the federation would be absolutely 100% behind”, and therefore seen as one of the most feasible and plausible to implement. However, the issue of austerity was also raised for this recommendation. Given that the policing college is not able to take on any further training modules, participant 6 voiced the “need to be creative when we are thinking about providing any kind of psychoeducation or training. I think it could probably be an e-learning platform for people, like a 5-week webinar that people could plug into”. Additionally, the potential to tailor some of the positive coping trainings to specific job roles, based on the stressors linked to those operational capacities was also
discussed. For example, for “those high-risk factors like within PPU [Public Protection Unit] and the fatal RTC [Road Traffic Collision] team, etc…there are specific risks associated with those exposures that we could incorporate into those trainings”. Therefore, not only could this training look to increase coping skills but could also be tailored to the specific operational risks associated with the different roles within the PSNI.

6.1.4 Recommendation 4: Review of the Demand on the Service

All participants felt reducing the demand placed on officers and staff across the service was highly important and, consistent with the preliminary interviews conducted in Chapter 4, that the reduction of staff numbers had heavily impacted the PSNI. Although the staff and officer numbers have steadily fallen over the years, the issue of austerity remains a challenging for increasing force numbers. Participant 3 wanted “to explicitly comment on the demand issue, because there has been a downsizing of numbers in the period of time from 2010 to present and has been a red flag for all of us I think”, with participant 6 acknowledging that “we all feel like machines trying to get numbers increased ASAP to try and help with that demand piece”.

It was noted however, that not all departments experience equal levels of demand and that additional staff should be allocated in a fair and equitable manner. As participant 5 explained, “some people are under tremendous pressure with workload and others are not, those who are under pressure should get the extra staff so as long as it’s done in a fair way”. Additionally, it was discussed that increasing staff numbers is only one approach to reducing demand and that alternative approaches, such as those implemented during the current COVID-19 pandemic, could also be explored. These alternative approaches include working from home, either part or full-time, adjusting shift patterns, and extending or cutting hours where feasible. Participant 6 captures this in their statement:
I think you would get a significant degree of interest in this with relation to the twelve-hour shifts, four on four off, and how that worked for the organisation over the pandemic period. Because on the 1st of July they are going to reverse that decision and I think we will see significant fallout from that. And again that was about managing demand and maintaining work-life balance and also to do with the way that shifts worked and the way that they were able to manage those shifts in relation to fatigue and everything else so I think most definitely increasing staff numbers but there are lots of other aspects to it I think would be beneficial to look at.

There may be a desire to retain some of these approaches to working style going forward. Although austerity and lack of resources remains a challenge for this recommendation and others, there may be alternative approaches to addressing the demand issue, including allocating resources specifically to those department who have been identified as having the highest demand and adjusting shift patterns so that personnel can work more effectively with their time.

6.1.5 Recommendation 5: Implementation of Exercises and Trainings to Increase Organisational Support Between Peers and Management and Reduce Mental Health Stigma

Based on the results of the preliminary interviews and survey, which highlight the need to increase organisational support and reduce mental health stigma within the PSNI, this recommendation was produced. Participants agreed that there was a need to not only strengthen support between peers and managers within the organisation, but also to reduce the stigma regarding negative mental health. This discussion also raised the question, as outlined by Participant 5, “how do managers recognize if someone is under stress on the job?”. It was also discussed that there is a lack of understanding around what managers perceive as being supportive and what staff and officers feel is supportive. As participant 4 explained:

*I think the whole situation, it’s pretty clear that there is a huge issue here as to what management see as support and what an individual feels the managers should have done in relation to support. And they are on two different*
wavelengths and it’s about time we pulled that together into a strategy.

This recommendation focuses on organisational support from both a peer and managerial perspective. From a managerial perspective it is important to increase awareness and educate managers about signs of stress and potential poor mental health from within their teams. For peers, increasing support also includes psychoeducation and exercises to establish ways in which peers can look out for one another’s well-being through enhancing social networks within the PSNI. One way in which organisational support can also be built is through the reduction of mental health stigma, a strong predictor of adverse mental health outcomes as identified in the survey results.

The focus of the discussion on recommendation five however, was on the topic of mental health stigma. Participants highlighted that while PSNI personnel “want services here instead of externally because of security reasons,” stigma still acts as an important barrier to accessing care from Mental Health Services (MHS). Participant 4 surmised, “I would say it’s [not accessing MHS] more because of the stigma, they don’t want to approach line management to ask for a referral for mental health service”. It was agreed on by most participants that the requirement of a line management referral to access MHS acts as a particular barrier to access and may push many personnel to seek psychological services externally of the PSNI. Officers and staff are hesitant to ask line managers for a referral because they do not want to be seen by their superiors as struggling psychologically in their job.

Stigma was not only related to the need to attend MHS for support, but also “the big stigma for people [in] the removal of their gun”, and the implications that this might have on the individual. Overall, there was consensus in implementing this recommendation and that there is a need to enhance both managerial and peer support throughout the organisation. Additionally, this recommendation led to a significant
amount of discussion around stigma and the impacts that stigma has on accessing psychological care within the PSNI.

6.1.6 **Recommendation 6: Review of Internal PSNI Procedures**

Feedback around the review of internal PSNI procedures, as outlined in Section 3.7.4.3, focused on the current movement to adapt internal policing procedures in order to reduce the stress associated with these both at the PSNI and nationally. These stressful procedures were referred to as PSNI-related stressors in the survey and results identified that cumulative exposure to these stressors were statistically significant in predicting adverse mental health outcomes. The specific types of stressful internal procedures included: being served with internal investigation papers; being involved in an investigation with the Police Ombudsman; being arrested due to an incident which occurred on duty; being suspended from work; having your own home or property seized or searched; being subject of a campaign of bullying by a colleague or manager; dropping to half pay as a result of injury on duty; attending an industrial tribunal in relation to an employment matter involving PSNI; refused flexible working; absence Management Panel procedure; perceiving organisational injustice in others; and having cancelled leave.

Discussions around changing procedures for internal investigations and other discipline measures are ongoing within the PSNI, led by the Culture Governance Board, and participants viewed the results of this study as key to feed into the discussion around how to move forward with change. Participant 6 informed the group that, “all of those [the above listed internal procedures] are going to link into the people in the Culture Governance Board because we have professional standards and various other disciplinarian bits and pieces that are going to form the agenda at that meeting. And people management, culture, and then how do we support individuals who are going through investigations”.

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At a broader level, there are other professional board and agencies who are moving to improve the standards of similar procedures and provide support for individuals. Participant 4 drew on examples from other agencies that could be replicated within the context of the PSNI:

*I do think there is some learning from other professional bodies here. I do know the TMC [Assist] (a UK road transport advice service) has put in a lot of support for individuals under investigation. They’ve set up a helpline for police and their families, as well as victim’s families. We’ve done a lot of work around that because of people who have taken their own lives eventually because they’ve been under so much stress. So learning from that, for instance, I know that one of the people who does the investigations and runs the teams for TMC would be an ex-detector from the Metropolitan Police so there is a cross-over of public service learning so there might be something useful there.*

This quote not only provides valuable information about other agencies who are moving forward with providing more support to their personnel, but also highlights the consequences of being under internal investigation for individuals and their families, the ultimate of which is one taking their own life. Participant 5 added that, “with investigations, in hindsight, it seems right to get investigated, but if someone hadn’t done something wrong, on top of the suspension, it is very stressful”. The nature of internal investigations and suspensions, among other internal procedures, are highly stressful and the focus group agreed that changes should be made to reduce the impacts of these events, particularly because not all investigations are valid and can cause significant stress to both the individual officer and their families. In addition, drawing on the experience and tools of other policing and non-policing sectors could prove highly useful for how to implement this recommendation.

6.2 Implications

In line with implementation research, the focus group discussions ensured that the recommendations produced for the PSNI were ultimately user and stakeholder owned and informed. Overall, each recommendation received positive feedback and all were
accepted by the SMT within OHW. The focus group further highlighted several considerations for each recommendation, that recommendations must take into account the context of the PSNI, and work towards mitigating any challenges with implementation. Constructive feedback was also given with regards to how to implement the recommendations.

Across the recommendations, participants noted that the results of this study and the related recommendations should be passed onto higher ranks and included in reports to the Chief Constable to consider for implementation. Specifically, participant 6, as the most senior member of the focus group, stated “all of these recommendations needs to figure their way into the governance paper\(^1\) in that the options we are giving are going to be to implement all, implement some, and then engage and communicate and consult with the relevant individuals”. Correspondingly, several additions and amendments were made to the aforementioned recommendations, which ultimately led to the following final recommendations being taken forward for future implementation by the Deputy Chief Constable within the People and Culture Working Group. To implement these recommendations and to further create a stress and trauma risk management strategy within the PSNI, it is proposed that the organisation should set up a risk management team with a lead who can execute and manage the recommendations, as they are outlined below.

6.2.1 **Recommendation 1: Annual Psychological Screening of the Service**

Participants felt the importance of thoroughly discussing this recommendation with the SET in a way that outlines the resources required in order to move this forward. For example, the inclusion of a timeline for how and when the various stages of the psychological screening would take place was deemed as critically important, as reflected

\(^1\) A governance paper is written to the Chief Constable to discuss in their Senior Executive Meetings
by participant 3’s discussion with the Deputy Chief Constable (second highest rank in the PSNI, after Chief Constable). In addition, the inclusion of a timeline for this recommendation was seen as important in order to set up a clear monitoring plan, with this study acting as the baseline against which to compare progress over time for the PSNI.

It was agreed in the focus group that it is important to communicate the purpose of the psychological screener to officers and staff, as one of multiple steps that the organisation was willing to take to provide a better duty of care to all its staff and officers, given the increased risk of poor mental health in this sector. However, and as highlighted in the preliminary interviews, an inherent ‘mistrust’ of senior management might make it especially difficult for officers and new-recruits to believe that any psychological screeners are indeed an act of ‘duty of care’. As a result, it is essential to develop an accompanying communication plan which reinforces that the organisation is prioritising staff well-being and that the findings of the psychological screener will be used in a positive, proactive way to protect employee mental health.

Due to the scale of this recommendation, and the amount of resourcing and time it will require, starting with high-risk groups was seen as a logical initial step in this process. Making the psychological screener voluntary, as suggested in the focus group, was suggested would not provide adequate information to OHW with regards to identifying and treating those who are at risk of psychological ill health, as it is likely that those who are most in need of using OHW’s MHS would not voluntarily complete the screener. It was therefore seen as vital for all members of high-risk teams, and further, the entire service, to be asked to participate in screening. Making the psychological screener mandatory, as seen in various police services around the globe (Moura & Ramalho, 2017;
Reaves, 2010) might increase the efficacy of the screener. However, there is still the risk of biased answers in self-reporting that may impact on the reliability of the screener.

Indeed, psychological screening is now common practice for many police forces around the including a United States national survey, which found that psychological screening was mandated in 90% of police departments (Reaves, 2010). Oscar Kilo, the National Police Wellbeing Service for the United Kingdom, also strongly advocates and provides training for the use of psychological screening as a part of the national wellbeing strategy for risk management of police (Oscar Kilo, 2019). Further, the UK College of Policing provides materials for psychological screening and highlights the importance of utilizing screening measures to ensure police well-being (College of Policing, 2017).

In addition to including a timeline and prioritising high-risk groups for the introduction of the psychological screening, participants emphasised the need for a contingency plan to address the high numbers of individuals who meet the clinical threshold for various mental health diagnoses. Meeting this demand was seen as important on two levels. Firstly, how the organisation will be able to meet the increased demand placed on the MHS team and, secondly, how the organisation will proceed in adjusting the operational responsibilities of individuals with a clinical diagnosis, where necessary. The recommendations made here are also relevant to those under recommendation 4 (review of the demand on the service), as the implementation of a psychological screener will require an increase in the staff within MHS across various aspects, including the development, collection, and analysis of data of the psychological screener, as well as the provision of clinical treatment required in response to those who meet clinical and sub-clinical cut-off scores. As a result, this recommendation was adapted by including an implementation timeline, the recommendation of expanding the MHS team to enhance resources to run the psychological screening (such as
implementing a new role to manage this) and respond to the clinic need, and to focus on starting the screening with high risk roles to preserve current resources.

6.2.2 Recommendation 2: New-recruit Screening

While the recommendation prior to the focus group discussion initially focused on a pre-employment screening tool, results from the focus group discussions suggest that a new-recruit screening should instead take place after police are recruited to the service. This approach was seen as increasing the likelihood of participants answering truthfully, therefore increasing the validity of responses. Therefore, the screener has been changed from a pre-employment screen to a new-recruit screener. Like regular psychological screening, the use of pre-duty screening is already in use by various police forces around the world. For example, the Netherlands and Norway both use a personality screening tool prior to employment where high scores, particularly for neuroticism, are reason to not select a candidate for employment (Kop et al., 1999; Martinussen et al., 2007).

Similar to the staff and officer psychological screening, participants stressed that the way in which the purpose of the new recruit screening is communicated to new recruits is paramount. Specifically, the importance of new recruits understanding that the screener is a positive and constructive opportunity for their career development, which will help to match their strengths to specific roles. By identifying key individuals whose profiles include stressors that are high risk for the development of adverse mental health outcomes, a process that has been a part of policing since the 20th century (Bartol & Bartol, 2006), the service can better look after new recruits and possibly provide training (see recommendation 3) and support for them to build resilience and maintain psychological well-being. In this sense, psychological screening acts as a way for the PSNI to ensure duty of care to all new officers and staff entering the service, and focuses
on the individual risks identified by the survey as well as psychological measures of anxiety, depression, PTSD and CPTSD.

There are a number of considerations of this screening that need to be taken into account by the organisation based on the results of this study. First, there is the need to take into account various personal factors such as coping strategies, personality, and history of trauma exposure (both ACE’s and adult traumas), perceived stigma, education, and if the individual has children, are particularly important. Additionally, the final screening should be further developed with the MHS team to ensure that it is comprehensive of the various risks that the MHS team have identified in their clinical experience at the PSNI, such as the inclusion of ACE’s as identified in the focus group discussion.

Third, the issue was raised around the mandatory two-year placement for new recruits within District Policing and how this new recruit screener might impact where recruits could be placed within the service moving forward. Currently, there is little evidence to suggest which branches new recruits should be placed into based on their individual risk profile. This would therefore require further investigation. Finally, the responsibility of identifying and placing new recruits into particular branches if they are identified as high risk however, would lie within MHS and there is currently no individual who could manage this as part of their remit. As with recommendation 1, it is proposed that an individual is recruited to manage a mental health risk team to oversee the implementation of these recommendations.

Little evidence exists on the impact that new-recruit screening has in the prevention of adverse mental health outcomes. While there is some evidence on pre-employment or pre-exposure screening, the evidence is mixed. Some studies have found that screening was not helpful in predicting subsequent psychological illness (Rona et al.,
2006), however this screening was solely with regard to current mental health problems and did not focus on individual characteristics such as coping skills and personality, as proposed in this recommendation. Conversely, a systematic review on emergency responder pre-duty screenings identified that screening for coping style and personality did positively predict subsequent adverse mental health outcomes and that previous personal traumas impacted on future mental health outcomes (Marshall, Milligan-Saville, Mitchell, Bryant, & Harvey, 2017).

6.2.3 Recommendation 3: Implementation of training to develop positive coping strategies

The results of the survey show that avoidance coping strategies are one of the strongest predictors of adverse mental health for the PSNI. The implementation of a recommendation that particularly addresses the enhancement of proactive and positive coping strategies is therefore essential in the stress and trauma risk management of the PSNI. Coping skills training has been found to have a positive effect on psychological outcomes in a variety of settings, including cognitive behaviour therapy (McKain, 1984), mothers of children with disabilities (Ergüner-Tekinalp & Akkök, 2004), chronic pain (Lumley et al., 2014), particularly in reducing symptoms of anxiety and depression. Promoting positive coping skills through psychoeducation and providing information around resources to enhance positive coping skills is likely a valuable preventative tool against the future development of adverse psychological outcomes, acting as a protective measure of psychological well-being.

As it has been identified that police can establish a coping style, either adaptive or maladaptive, that impacts on their occupational functioning as early during at initial recruitment trainings (Violanti, 1993), it is essential that this recommendation is implemented as a part of initial trainings at the PSNI. Specifically, coping skills training
should be offered not only at initial trainings for PSNI personnel, but also for those established in the service. A service-wide training for all existing personnel is thus proposed within this recommendation in order to help reduce the rates of psychopathology. If this training is to be delivered by individual units, there would be scope to introduce materials that are specifically tailored to include coping strategies based around the unique operational stressors encountered by those teams.

Previous research has linked neuroticism to maladaptive coping strategies, including both emotion-focused and avoidance coping strategies (Afshar et al., 2015; Boyes & French, 2010; Vollrath & Torgersen, 2000). This same relationship between personality and coping style has also been established within policing populations (Kirmeyer & Diamond, 1985). It is possible that individuals who have high levels of neuroticism have increased emotional reactivity due to the use of maladaptive coping styles (Bolger & Zuckerman, 1995). This can be explained by Hockey’s (1997) compensatory model, which posits that an individual’s ability to cope with stress is influenced by efforts to monitor and self-regulation. A study by Afshar et al. (2015) concluded that in programmes that aim to prevent and control stress, working to strengthen effective coping strategies is crucial component, particularly for those individuals who have maladaptive personality traits such as neuroticism. Additionally, the findings from Afshar et al. (2015) highlight that both personality traits and coping styles could be used to determine specific training programmes to enhance a person’s ability to manage psychological distress. Therefore, the introduction of a coping skills training has the potential to impact the development of positive coping strategies as well as increase emotional stability within the PSNI, as the two strongest predictors of poor mental health identified in the current study.
While some programmes do exist within the policing literature that include the enhancement of coping skills, there remains a large gap in the current evidence and application of coping skills training for police personnel. One programme that has received much recognition within a policing context is that of Critical Incident Stress Management. Critical Incident Stress Management (CISM) is a peer-driven stress management programme which was created specifically for emergency first responders to help manage the impacts of exposure to the various critical incidents they are exposed to as a result of their work and is commonly used within the policing context (Mitchell & Everly, 2000). Currently, the PSNI use Critical Incident Stress Debriefing (CISD), known as the ‘crisis intervention’ component of CISM, whereby officers are debriefed after exposure to a potentially traumatic incident. While CISD has been shown to increase the use of adaptive coping strategies by police personnel, it is a programme used post-incident in an attempt to reduce the stress response (Leonard & Alison, 1999). The other six components of CISM, including pre-crisis preparation however, are not currently being utilised within the PSNI. Pre-crisis preparation includes stress management education, crisis mitigation training, and stress resistance training (Everly, Flannery, & Mitchell, 2000). While the enhancement of coping skills is an included aspect of the ‘pre-crisis preparation’ within CISM, a direct, pre-incident training to develop and strengthen adaptive coping strategies is necessary in order to mitigate the detrimental psychological impacts that trauma exposure can have on police, as posited by this recommendation. Therefore, while CISM is widely used among emergency responders and incorporates the need to increase positive coping strategies, a training that focuses on culminating adaptive coping skills, while reducing avoidance coping and teaching police how to use their coping skills to effectively navigate the stressors brought on by police work is crucial.
The focus group discussion however, highlighted various barriers to this recommendations implementation that must be navigated. With regards to recommendation 3, the training to develop positive coping strategies was proposed to as taking place as one of three different formats, dependent on the resources available for implementing the training. The preferred method of delivery would be face-to-face training, however if this is not possible, as identified in the focus group, the use of both a hard copy and online format should also be made available. This will allow for various modes of uptake within the service, based on the allocation of organisational resources. Although it was outlined that the policing college for the PSNI could not provide this training, there may be opportunities for individual branches or units to implement the trainings for their teams. With this in mind, further advice to tailor trainings based on the specific risks associated with discrete roles in the PSNI was also included in the final recommendation.

6.2.4 Recommendation 4: Review of the Demand on the Service

Within the recommendation of reducing the demand placed on officers and staff, an increase in force strength (the number of police in the service) is a key component. Previous research has indicated that maintaining a bearable level of job demands leads to increased job satisfaction and reduced fatigue (Andersson et al., 2017). One way in which new resources and personnel can be introduced to the service is through the prioritisation of branches where there is an evident demand and lack of resources. This Demand Based Resourcing is common amongst police services and focuses on predicting where the highest demand within the service will be (NPCC, 2017).

Due to the lack of resources currently available, the focus group discussions also highlighted that there are various other ways to reduce the demand placed in the service, which include particular rearrangements of current work protocols. Examples given
included the introduction of the 12-hour shift and a four-days-on, four-days-off working arrangement. As outlined in the focus group discussion, there is potential for demand through the introduction of flexible working hours and working from home schemes, where appropriate, as well as rotation of duties within high-demand units. A rotation of duties from roles that are experiencing excessive levels of demand, particularly demand that is administrative-based and time consuming, to those who have lower levels of demand could assist in alleviating the overall demand on units.

Police services across the United Kingdom have experienced significant challenges as a result of austerity, with many reviewing and revising the way in which they function with fewer resources (NPCC, 2017). As a result, the National Police Chiefs’ Council (NPCC) has identified a variety of other ways in which demand can be reduced for police services that may also be considered by the PSNI as a part of this recommendation. The Policing Vision 2025, for example, highlights the importance of digital policing to reduce the impact of low resourcing, whereby the public can make contact with the police digitally and police can use digital intelligence and formats to speed up policing processes (NPCC, 2020). Improving self-service for the public, whereby the public can use digit platforms to access online information instead of needing to contact the PSNI directly, enhancing the automation of communications of ongoing cases to the public (such as keeping customers informed of progress), increasing the use of mobile computing solutions for officers to access information and resources, and collaborating with other organisations (such as other emergency responders and mental health response) to reduce the amount of calls directed to the PSNI (NPCC, 2017), may also help to improve services in times of inadequate resources for the PSNI. In addition to the suggestions outlined by the focus group and those presented by the NPCC, there may be the opportunity for task-shifting within the service, whereby
lower ranking officers, administrative personnel or new recruits take on particular tasks to alleviate the excess demand of particular roles. Further, and in relation to recommendation two, it may be the PSNI may want to prioritise the allocation of new recruits to those particular units that require additional personnel to keep up with demand, instead of requiring them to serve two years in District Policing. In conclusion, while additional resourcing may not be available to the PSNI, there are alternative ways in which demand can be reduced in order to protect the mental health of PSNI personnel. These additional avenues for demand reduction have thus been incorporated into this recommendation.

6.2.5 Recommendation 5: Implementation of Exercises and Trainings to Increase Organisational Support Between Peers and Management and Reduce Mental Health Stigma

Based on the findings of both the preliminary interviews and the survey, the implementation of exercises and trainings to increase organisational support and reduce levels of mental health stigma was identified as important for increasing psychological well-being for PSNI personnel. Increasing perceived support within the organisation is of critical importance, with previous research finding that higher support is associated with reduced fatigue and increased satisfaction at work (Andersson et al., 2017). Specifically, organisational support training should take place across two levels: specifically for those acting in a managerial capacity and across the PSNI more generally.

The focus group highlighted the need to increase managerial awareness of stress within their teams to improve their ability to support their teams, leading to the inclusion of a specific managerial training within this recommendation. A large focus of the training must be placed on enhancing managers’ capacity to identify those who are at risk of poor mental health and managers should be trained to identify the warning signs and
triggers of poor mental health within their teams (Edwards & Kotera, 2020). In addition, managers should be trained in a way to supportively discuss their concerns with supervisees they have identified as at risk, as well as ways to seek their agreement to refer them onto MHS.

General trainings delivered across the PSNI to enhance perception of organisational support, including between peers and managers, are also proposed as part of this recommendation. In order to achieve this, training should include information on how to enhance social networks, brings peers together to support one another, as well as clear commitment from senior management. The content of the training might thus include team-building exercises, friendly competition, the sharing of experiences (work or non-work related) that connect peers, and the use of encouraging and motivational reminders throughout the workplace.

In line with the theory of organisational culture, as described in section 2.1.3, the values, beliefs and actions of leadership have a large impact on establishing and changing the culture of an organisation (Schein, 2016). The concept of line managers and senior team members ‘leading by example’ to enhance organisational support is vital for the success of this recommendation, demonstrating that senior management cares about the well-being of their teams (MIND, 2013b). This could be achieved through a range of activities such as supporting a campaign to increase well-being of PSNI personnel or providing motivation and encouragement for employees to look after their well-being. Having senior leaders take part in enhancing the well-being of the entire organisation will lead to better change, as colleagues often respond correspondingly with how leaders behave and act (MIND, 2013b).

A report produced by the Society for Human Resource Management and the Society for Industrial and Organisational Psychology describes various strategies that
organisations can implement to enhance the perception of support to employees (Eisenberger, Malone, & Presson, 2016). Included in their strategies is the concept of providing training to both superiors and subordinates, deemed necessary by PSNI personnel in the interviews and focus group. This strategy also includes several other important tactics that should be considered by the PSNI to enhance organisational support, including:

1) implement the use of supportive workforce services which are discretionary;
2) all management practices must be equitable and fair;
3) set goals for employees which are achievable and can be rewarded proportionately;
4) learn what type of support is needed by employees and provide tailored support;
5) provide further support to management so they are able to foster perceived organisational support within their teams;
6) train subordinates to be supportive;
7) enhance and promote strong, supportive social networks; and
8) provide organisational support to potential employees prior to their employment, including throughout recruitment and training.

These eight evidence-based tactics can encourage employees to feel more supported by their organisation, superiors and colleagues, resulting in enhanced psychological well-being, reduced stress, increased commitment to the organisation, better performance and a reduction in absenteeism and staff turnover (Eisenberger et al., 2016). Therefore, an additional consequence of the implementation of this recommendation may be that there is a positive impact on demand due to the reduction in absenteeism and turnover of officers and staff. In addition to the discussed importance of specific managerial and general trainings among the PSNI to enhance organisation support, the other six tactics of
this strategy should also be considered to further increase organisational support. Although there is a paucity of information regarding the implementation of organisational support trainings amongst policing populations, the above strategy could easily be adapted to the context of the PSNI.

As identified in the focus group discussion and in the findings of the survey, a major aim of this training is also to reduce the stigma of poor mental health within the service. Mental health stigma appears to be a challenge for many policing services and is an additional source of stress that can increase poor mental health outcomes and reduce perceived support (Barron, 2010). The implementation of exercises and trainings that work to reduce levels of mental health stigma are essential to the well-being of PSNI personnel, with perceived stigma identified as a significant predictor of all mental health outcomes in the present research. Generally, there is a lack of mental health training among police forces and further psychoeducation training is required to shift attitudes about mental health (Cummings & Jones, 2010). Psychoeducation has been proven to reduce levels of mental health stigma in a range of populations, including police personnel (Bahora, Hanafi, Chien, & Compton, 2008; Beltran, Scanlan, Hancock, & Luckett, 2007; Li et al., 2019). Specifically, educational trainings on mental health among police have been shown to increase knowledge about mental health, lead to more positive attitudes towards people with mental health problems, and reduce stigma towards people who are in crisis (Bahora et al., 2008; Compton, Esterberg, McGee, Kotwicki, & Oliva, 2006; Hansson & Markström, 2014).

Contact strategies have also been found to have a significant positive impact in reducing mental health stigma, with some studies suggesting they are more beneficial than psychoeducation trainings (Corrigan et al., 2001). Contact strategies, whereby people directly interact with individuals who have recovered from mental illness or watch
videos of persons who have recovered from mental illness, could certainly be adapted and used by the PSNI. While engaging with video content would be easiest to implement, direct contact has been proven to be more effective at reducing mental health stigma (Corrigan, Morris, Michaels, Rafacz, & N., 2012). This role should be filled by a range of PSNI personnel, depending on the target audience and should include high- and low-ranking officers and staff from a range of roles who are in recovery from mental illness. Individuals willing and chosen to step into this capacity should be prepared to share their experiences of poor mental health, acceptance of the illness, the way they have been able to cope, the treatment they received, and how they have been able to overcome their mental illness and achieve their goals. These points of discussion are based on those in the programme *In Our Own Voice*, from the National Alliance of Mental Illness, which also uses informational videos on each of the above five topics prior to the discussions and interaction with the facilitators (National Alliance on Mental Illness, 2020). Evidence suggests that this programme has been successful in reducing stigmatising attitudes and social avoidance when compared to control groups (Corrigan et al., 2010). It was further advised to include regular bulletins and information on the policing home page to assist in the gradual reduction of mental health stigma. The bulletins could provide information on psychoeducation, normalizing adverse mental health reactions to police work, and encouraging PSNI personnel to support one another and reduce the stigma against officers and staff who experience poor mental health.

Overall, a reduction in stigma is a principal goal of this recommendation. Similar to the organisational component outlined previously in this recommendation, the incorporation of senior management in the campaigns to reduce mental health stigma through media (such as the PSNI’s Wellbeing Hub and the production of short videos), may provide further benefit.
In sum, the focus group suggested two forms of trainings to address the need to increase perceived organisational support for the PSNI: managerial training and general organisation-wide training. Further, a strong emphasis on the reduction of mental health stigma and the importance of incorporating managers in this strategy was put forward. The points raised by the focus group thus allow for the specific contextual needs of the PSNI to be addressed and considered in the final recommendation.

6.2.6 **Recommendation 6: Review of Internal PSNI Procedures**

While actions are being taken within the PSNI to improve the standards of internal procedures, the results of this study, along with their associated recommendations, support the need for additional change within the organisation. A specific focus should be placed on internal investigation procedures, as previous research has identified that internal investigations were a common feature of officers who had committed suicide, with a third of officers who commit suicide being under investigation or workplace review (Barron, 2010). This recommendation therefore calls for a two-pronged approach whereby adjustments are not only made to the current procedures, in order to reduce stress on the individual, but where individuals and their families are also offered additional support while going through these procedures. Further, this recommendation aligns itself with the previous recommendation whereby the PSNI should increase organisational support to officers and staff, particularly for those experiencing stressful internal procedures.

While providing support to PSNI personnel and their families is of high importance, there is also a range of other strategies that can be applied by the PSNI in an attempt to reduce the negative psychological impacts of stressful internal procedures. First, it is recommended that the PSNI ensure fairness and consistency in the application of internal affairs procedures (Stephens, 2011). For example, there should be a clear
understanding among PSNI personnel of the type of action(s) that will lead to internal investigation, being the subject of disciplinary action, or being refused leave, and these should be consistently applied to all personnel in the same way. Second, the PSNI should ensure that officers and staff have a coherent understanding and expectation of the policy and process of each internal procedure, such that the formal process, the timeline of procedures, and the resources available are clearly outlined in writing (Thurnauer, 2010). Third, for the internal procedures that result in disciplinary action, education-based discipline should be used, where possible. Developed by the Los Angeles Sherriff’s Department, education-based discipline focuses on behavioural change rather than punishment (LASD, 2011). This process gives the individual the option of voluntary remedial trainings or education and also includes a mandatory eight-hour training on understanding the influences and impacts of decision-making. However it should be considered that while there is much support for education-based discipline there is little evidence of its effectiveness due to its recent development (Stephens, 2016).

Together, these three strategies provide a general set of guidelines that can be applied to all internal procedures to reduce their negative impact. Alongside increasing perceived support from the organisation, implementing these strategies would mean that PSNI personnel would be better equipped to handle the stressful nature of internal procedures and ombudsman investigations.

6.3 Conclusions

The focus group provided essential, first-hand knowledge and information to aid in the further development of the recommendations for a risk management strategy. Throughout the discussion new information was presented and critical areas of consideration were highlighted. As a result, various amendments and specification have been developed for inclusion in the final risk management strategy recommendations. Overall, the practical
steps required to implement these recommendations have been more clearly developed
and will allow for the organisation to move more swiftly to act on these
recommendations.
Chapter 7: Thesis conclusion, limitations and implications for theory, policy, and practice

7.1 Conclusion

The present study investigated the various individual, operational and organisational stressors and traumatic risk factors associated with negative mental health outcomes within the Police Service of Northern Ireland. Using a multi-method design, which encompassed a systematic literature review, interviews, organisation-wide survey of 1,834 PSNI officers and staff, and a focus group discussion with the senior management of OHW, the current thesis provides a comprehensive overview of the individual, organisational and operational risk factors that confer adverse mental health outcomes among the police, and the PSNI more specifically, as well as associated mitigating recommendations that can help to improve the overall wellbeing and mental health outcomes of the PSNI. Together the overall findings add to our current understanding of the factors that contribute to adverse psychological consequences among police officers and staff, including those factors that are unique to the context of the PSNI as an organisation operating in post-conflict Northern Ireland.

7.1.1 Phase 1 conclusion

The systematic literature review identified the risk factors associated with the most common types of psychopathologies (anxiety, depression, PTSD and burnout) assessed within the extant police literature. Much of the literature on police mental health has focused on organisational and operational risk factors, however, individual factors are highly important to fully understanding psychological risk in police. Within the systematic literature review only 5 studies included measures for coping and 8 for personality out of 20 articles, with the majority of studies focusing on measures of
operational and occupational risks. Key individual risk factors included being female, lack of social support, certain personality types (e.g. neuroticism and introversion), and negative coping styles. Key organisational risk factors identified included lack of social support in the workplace, lack of control, high effort and low reward, high work demands/workload, and low resources. Finally, the operational risk factors identified by the review included increased exposure to traumatic events, as well as specific types of exposures such as working with child victims, being ambushed, killing someone in the line of duty, or being injured. However, none of the articles in the review included operational risk factors for anxiety or depression, only for PTSD and burnout. Together, the results of the systematic review were used to generate an initial theoretical framework for the current study. These findings of this phase answer research question 1 and the aligned research objective 1.

Due to the recency of the inclusion of CPTSD within the ICD-11, none of the articles in the review included measures of CPTSD. Additionally, while some of the articles identified by the systematic review included operational risk, they did not include a measure of cumulative trauma by types of exposure. Therefore, the current study sought to be the first study to assess CPTSD risk factors among police personnel, taking into account cumulative trauma type. The systematic literature review also identified that policing context, such as the unique environment of policing within post-conflict states, for example, is rarely taken into account in policing studies. Therefore, the systematic review was complemented by a series of interviews, which sought to elicit additional factors, unique to the context of the PSNI, that key stakeholders thought might also contribute to adverse mental health outcomes among PSNI personnel.
7.1.2 Phase 2 conclusion

PSNI personnel provided information regarding their personal experiences of working in the police and for the PSNI as an organisation. The findings of this phase provided evidence of four key context-specific organisational stressors and one main operational stressor that officers and staff experience working for the PSNI. Firstly, the impacts of austerity were identified as highly stressful and led to a reduction in staff numbers and reduced professional development opportunities. Second, a high workload was identified by participants as being very stressful, increasing the pressure on staff and officers. Third, problems with management, where participants did not feel supported by their managers and felt that management solely looked after themselves was brought up as a key factor contributing to distress among officers and staff. For participants, these feelings towards poor management were particularly true for senior management.

The fourth operational stressor was the feeling of being underappreciated by the organisation, whereby officers and staff felt that they received little recognition and were treated as resources instead of people. This concept of underappreciation caused participants to feel that the organisation did not care about their well-being. Finally, the main operational factor identified by interviews was the role of interpersonal traumas. Specifically, officers and staff described how they were exposed to an array of interpersonal traumas as a result of their operational duties, such as murder scenes, violent attacks against police, domestic abuse and child abuse. In addition, working in a post-conflict setting, and the threat against police personnel from dissident groups still prevalent in Northern Ireland were identified as playing a role in the overall stress felt by the participants. The findings from the preliminary interviews answered research question two, contributing to research objectives two, three and four.
The preliminary interviews thus provided valuable information about the specific organisational and operational stressors encountered within the context of the PSNI. This resulted in the inclusion of stressful internal affairs and security-related stressors to the initial theoretical framework. Together, and in addition to answering the first and second research questions, in fulfilment of research objectives one through four, the systematic literature review and preliminary interviews were subsequently used to inform the subsequent phases of this study – the survey and focus group discussion.

7.1.3 Phase 3 conclusions

Survey results identified that individual risk factors are the largest predictors of adverse mental health outcomes for PSNI personnel, followed by organisational factors and, finally, operational factors. The strongest predictors of adverse psychological outcomes from this sample were avoidance coping and neuroticism, followed by perceived stigma. In terms of organisational factors, internal procedures at the PSNI and security-related stress as a result of working in a post-conflict setting were also associated with adverse mental health outcomes. This finding emphasises the important of context-specific research and the impact that the post-conflict setting has on the psychological well-being of police. Further, work demand was identified as an important predictor of adverse mental health outcomes, namely anxiety, depression, burnout, and STS. While the number of types of trauma exposures that police encountered did predict probable PTSD, CPTSD and STS, it was not associated with anxiety, depression or burnout. The results indicate that while operational and organisational risks differ among the various mental health outcomes, individual factors are consistent. These findings provide a unique contribution to the current literature on police mental health, highlighting the need to incorporate individual factors, namely personality and coping style, into future research.
The theoretical framework of this study further evolved from phase two to phase three. The survey results indicated that while there is significant risk across each domain of stress, individual, operational and organisational, that the strongest predictors of adverse mental health are individual factors. The theoretical framework derived from the survey identifies coping strategies and personality factors as the strongest predictors of adverse mental health outcomes, paralleling much of the findings from the extant literature (Andrew et al., 2013; Garbarino et al., 2013; Martin & Boyer, 2009). Organisationally, the final theoretical model identifies demand, control, change, relationships and role as predictors of adverse mental health outcomes. The negative psychological impact of stressful internal procedures from the organisation, such as internal investigations and refused flexible working, is often overlooked amongst the literature on police populations but is highlighted in this theoretical model. Similarly, perceived stigma has been largely understudied in the policing literature and the phase 3 results have identified it as a crucial component in the final theoretical model of this study. While cumulative exposure to various types of critical incidents is important to understanding the overall risk of policing on mental health, it was only significant for PTSD, CPTSD and STS, as found in previous studies (Maia et al., 2011; Yuan et al., 2011) and generally only explained a small amount of the variance for these outcomes. Security-related stress represents the final component of the theoretical model, recognizing the impact that the post-conflict setting has on the mental health of police. Overall, the final theoretical model of this study suggests that individual factors account for the largest variance in adverse mental health outcomes, followed by organisational factors and, finally, operational factors. It also acknowledges that the contextual policing environment significantly impacts on the psychological well-being of police. The final theoretical model provides unique contribution as a PSNI-specific framework for
identifying the key risk factors for adverse mental health outcomes among PSNI personnel.

Together, the results of the survey addressed research questions two through five, in fulfilment of research objectives two, three and four. The results of the systematic literature review, preliminary interviews, and organisation-wide survey were used to develop an initial set of recommendations for further development and consideration within focus group discussions held in phase four.

7.1.4 Phase 4 conclusion

The final phase of the present study was a focus group with the Occupational Health and Wellness Senior Management Team (SMT) within the PSNI where an initial set of recommendations for a trauma risk management strategy were presented and discussed. Specific feedback was given for each recommendation during the focus group, with a view to making the recommendations more specific, and more achievable. Overall, the SMT felt very strongly about the need to implement these recommendations within the service. The focus group discussions also identified challenges with resourcing, non-compliance, and potential unintended consequences from the recommendations. Ways in which to overcome these potential barriers to uptake of the recommendations were discussed. As a result of the focus group, a meeting has been arrange with the Senior Executive Team (inclusive of the Chief Constable, head of the PSNI, the Deputy Chief Constables and Assistance Chief Constables) to present the findings and recommendations of this study. This meeting will hopefully provide the opportunity to discuss the implementation of the recommendations designed to increase the psychological well-being of PSNI personnel.

Phase 4 of this study also contributed to the theoretical model produced by this research, whereby potential mitigating factors have been identified. Particularly, a
reduction of stigma, an increase organisational support, the providing of coping skills trainings, a review of internal procedures to reduce stress on personnel, and the use of mental health services, are all recognized as potential mitigating factors of adverse mental health outcomes for the PSNI. Results of the focus group discussion therefore contributed to the completion of objective 4, and helped to ensure that recommendations towards a trauma risk management strategy are feasible within the context of the PSNI.

7.1.5 Overall concluding remarks

In synthesis, the various findings from each phase of the current study have identified several important factors in policing research, including advances in our understanding of the complexities of mental health in policing, addressing gaps in the extant literature, and advancing theoretical developments on police mental health. Although police are exposed to a range of critical incidents and stressors in relation to being in the line of duty, many feel that it is the stress of the organisation that leads to poor mental health (Leeds, 2009). While there has been a shift in conceptualisation of what puts police most at risk of developing psychopathology, from mainly operational stressors to a focus on organisational stressors, the findings of this study highlight the necessity of also focusing on the individual risk factors such as personality, coping, and perceived stigma.

Additionally, the context in which police services function and the communities they serve influence the types of stressors that police encounter. Rarely taken into consideration within previous research however, the findings from this study support the inclusion of context-specific factors as an important component of the risk factors in policing. The factors that affect adverse mental health therefore reach beyond the organisational and operational stressors in police work. Interestingly, this study did not identify social support as being a large protective factor for adverse mental health outcomes, contrary to previous research. The small associations found between support
and mental health outcomes may be due to the context of policing in Northern Ireland and have further theoretical implications. As a result of this study,

Overall, the findings of this study contribute expand on the policing mental health literature and aid in developing further theory. This study also further expands and provides distinct implications for the mental health of police in post-conflict settings, as a highly understudied area of psychology. Future research should address the context in which police work and focus on the dynamic interplay of all domains of stress, including individual, organisational and operational. Involving the participation of individuals within the police service in the development and interpretation of police-related research is further encouraged for the development of acceptable and feasible recommendations, as user-informed approaches are more likely to be implemented.

7.2 Limitations

The current study is not without limitations, with each phase of the current study characterised by specific limitations, as described below.

7.2.1 Systematic literature review

First, the majority (75%) of the included studies in the systematic review were a cross-sectional design and therefore causality cannot be deduced from the findings. However, three of the included studies were of a longitudinal design. Second, only peer-reviewed journal articles written or translated into English were included, limiting the scope of the systematic literature review in this study. This also led to the exclusion of most non-European or North American-based studies, potentially circumventing important policing research and leading to biases in findings. As the results of the present study highlight, given the importance of context-specific and the role of culture mental health outcomes
(Benjet et al., 2016), further policing research is necessary within non-Western populations.

7.2.2 Preliminary interviews

While there are many strengths with conducting in-depth interviews, there are also a variety of limitations. First, inherent personal biases among the research may impact on the type of information gathered during the interview and the way in which it is interpreted. Second, the majority of interviews were conducted at the PSNI during working hours. This may have impacted on the responses due to the social context of the interview location as well as any time constraints they may have felt while being on shift. It is possible that participants were fearful of being overheard and thus did not fully disclose their opinions. However, to try and reduce the impact of interviews being conducted on-site at the PSNI, all precautions were taken to ensure that interviews were conducted in secure locations without access by other personnel.

Third, sample size was relatively small, with five PSNI personnel participating in the interviews. Of these, four were officers and one was a member of staff. While these figures are relatively representative of the PSNI numbers they present particular limitations with regards to the generalisability of the findings. Also, there was a range of ranks who took part, including two constables, one sergeant, one chief inspector and the one member of staff, however the interviews did not include participants from all ranks.

7.2.3 Organisation-wide survey

While the organisation-wide survey yielded a very good response rate from the organisation, there are several limitations to the phase of the study. First, participants may not have answered honestly to responses due to a fear of being identified in the survey. Similarly, respondents may have not wanted to fully disclose how they felt, particularly in the psychometric measures. This is especially relevant to this population given the stigma
of mental health and the importance of maintaining a ‘good standing’ within the organisation. While officers and staff were given the choice to take part from either work personal device at a time and location that suited them, those who took part at work may have had a heightened fear of being identified or being seen to answer questions in a particular way.

Second, officers and staff who were on sick-leave were contacted via post to take part in the survey. They were provided a secure weblink to take part, however it is possible that some of these individuals did not want to engage with the survey due to its content and relation to the PSNI, leading to potential biases in the findings. Third, the length of the survey was relatively long, taking an average of 35 minutes to complete, and as a result participant may have tried to rush through it, misread questions, or not answered accurately as they tried to hurry through the survey.

Finally, the cross sectional nature of this survey is also a limitation. It’s as likely that adverse mental health outcomes increase stigma, or negative coping strategies, for example. Similarly, these relationships are unlikely to be unidirectional in nature (i.e. whereby risks confer outcomes), and the relationship between these variables is likely much more mutually reinforcing, dynamic and complex.

7.2.4 Focus group discussion

The focus group had particular limitations, some of which resulted from the current COVID-19 pandemic. Originally, the focus groups were meant to take place across various categories of participants including line managers, SMT members, and frontline police teams. However, due to the pandemic, it was only possible to conduct on virtual focus group. Therefore, the first limitation of this phase of the study is the homogenous nature of the participants. All participants were based in Occupational Health and Wellness within the PSNI. While these individuals are very knowledgeable, holding
management positions with a breadth of experiences, and provided valuable feedback, phase 4 of the research lacked direct input from police officers themselves. A power dynamic was also present within the group, where both managers and personnel were involved, and may therefore have prevented less senior participants from voicing any unfavourable concerns in the presence of more senior staff.

More generally, participants in focus groups may not feel comfortable discussing their attitudes and opinions. This may have been particularly true for this focus group given the dynamic. Additionally, the focus group was only scheduled for a total time of one hour, without exception. Therefore, and while the focus group achieved its main objective of receiving feedback from participants with regard to each individual recommendation provided, there was insufficient time for a planned prioritisation exercise to be conducted, nor was there the opportunity to discuss a more descriptive pathway, or series of steps, to achieve these recommendations.

The focus group was limited to a one-hour time slot and this had implications for the completion of the discussion guide. As a result, the questions that were not covered during the focus group were emailed to participants but only one participant rang to discuss the further questions. Currently there are high demands within the PSNI due to the lockdown measures of COVID-19 and this likely impacted the ability of participants to respond to the final discussion guide questions.

7.3 Implications for theory

The results of the systematic literature review, as well as the general literature review, identified that existing theories which incorporate the impact that individual factors, in combination with occupational factors, have on police mental health. Currently, police theories focus very little on the individual factors, and instead prioritise the stressors of the organisation or the traumas exposures experienced by police. Particular attention
should therefore be given to the individual, but also contextual risk factors of police mental health outcomes, as a way to advance current occupational mental health and police-specific theories, which tend to primarily focus on the organisational and operational risks of the working environment. For example, the Demand-Control-Support Model focuses on the dynamic organisational factors and Complex Police Spiral Trauma theory places its focus on the operational hazards on mental health as a result of repeated trauma exposure for police. However, the present study identifies that coping style and personality are the two most influential factors for each of the adverse mental health outcomes (anxiety, depression, PTSD, CPTSD, burnout, and STS). Cognitive theory has been used to identify that the initial interpretation of a stressor can indirectly influence coping methods (Roesch, Weiner, & Vaughn, 2002). Further, research, although minimal, has identified cognitive models whereby certainly personality characteristics act as predictors in how an individual perceives a stressful situation (Hemenover, 2001; Roesch et al., 2002). Therefore, and while there are important risks associated with the organisational and operational aspects of police work, the inclusion of individual factors is essential in explaining mental health outcomes in a comprehensive construct. As a result, the final adapted theoretical model produced by this study is multicausal, incorporating the three domains of risk (organisational, operational and individual factors), and merges current theory across these domains while also taking into account context.

There is also a lack of context within existing policing theories on mental health, where police officers and the police departments in which they work are often treated as homogenous populations regardless of their culture, nationality, or circumstance. As findings from this study suggest, contextual components offer further our understanding of the impact of stressors on mental health outcomes for police and provide significant
theoretical implications. This study provides empirical evidence for the impact of the ecological and sociocultural dimensions of police work, as discussed in chapters 4 and 5. Particularly, the findings of this study identify the unique risks experienced by police working in a post-conflict setting and the associations of those risks on poor mental health. Consequently, the findings of this study present empirical evidence which builds upon social theories, particularly social theories on trauma proposed by Alexander (2012), whereby traumas are collective experiences. This concept has not previously been used in a policing context, however, and framing the PSNI as possessing a collective experience of trauma as a result of their general policing work as well as a consequence of terrorist threat against PSNI personnel offers help advance theory with regard to the dynamic relationship between a post-conflict setting and the organisational stressors (such as austerity, which leads to a lack of resources and increase demands) experienced by police personnel.

The different risk profiles for the various mental health outcomes of anxiety, depression, PTSD, CPTSD, burnout and STS also have theoretical implications. As identified in Chapter 5, not all psychological outcomes are predicted by the same factors. For example, although there is some crossover, the risk factors identified for CPTSD were unique in comparison to those of anxiety. These results further advance psychological theory by identifying that adverse psychological reactions to stress and trauma among police are not analogous and, instead, the various idiosyncratic typologies of mental health have unique sets of risk factors that determine the psychological outcomes of police. While there are theories that have been developed to described some psychological outcomes in police, such as the theoretical conceptualisation of police compassion fatigue (Figley, 1999b), further advancements in theories pertaining to
discrete mental health outcomes should be established and raises the question of whether these unique profiles warrant independent theoretical conceptualisations.

Finally, the identification of the impact of perceived mental health stigma on mental health outcomes, as outlined in Chapter 5, also advances theory on psychological police risk. Current theoretical perspectives fail to address the consequences of stigma on mental health outcomes and this is a highly understudied area within police work. While social capital theory posits that police may not want to identify with the emotional consequences of stress and trauma exposure as it may reduce their social capital, further advancement should be made in relation to the social capital of stigma. Generally, social capital has been largely understudied with relation to psychological functioning (Southwick et al., 2014) and this study provides developments in understanding the negative impacts of stigma on psychopathology. Perceived stigma was identified as a significant risk factors for all of the adverse mental health outcomes in the present study. Prior theories do not consider the consequences of stigma on police wellbeing and thus further advancement to incorporate stigma, both self-stigma and organisational stigma, is justified.

In summary, the findings of the present study have implications for the advancement of theory in the field of psychotraumatology, particularly that of police mental health research. Generally, theories on psychological responses to stress and trauma in police have been oversimplified and require a more dynamic and comprehensive approach due to the multifaceted nature of police psychology. It is essential to take into account the various dimensions of the individual and occupational risks of police work and the context in which policing populations operate. The findings from Chapters 4 and 5 warrant the development of more advanced, police-specific theories that offer a more comprehensive, dynamic representation of the risks associated
with police mental health; which include the culture of police forces, the context in which they are policing, the impacts of mental health-related stigma, and the various profiles of risk associated with discrete psychopathology.

7.3.1 Implications for policy

The findings of each phase of this study have provided unique insight into the key risk factors for the development of adverse psychological outcomes amongst police personnel. Many of the risks associated with poor mental health among police however can be mitigated through trainings, screenings, prevention policies, and early interventions. As police agencies are exclusively government entities, the duty of care to protect police officers and staff should start at the level of governmental politics. Particular attention to ensuring police maintain good psychological well-being should be as important as maintaining their physical well-being, as an area receiving increasingly more attention among policy makers. However, there is currently a lack of government standards that protect police in the United Kingdom, among other countries, against the impacts of police work. This study’s findings highlight an urgent need for nation-wide mental health policies, guidelines and standards to be enacted for police services.

Specifically, national guidelines in the United Kingdom should be established for the recruitment of new police and the implementation of mental health intervention strategies. Currently, each police district implements their own policies regarding these issues. National guidelines should derive from discussions amongst key stakeholders in the various police districts and should be informed by empirical evidence, including the findings from the present study, which focus on new recruit screenings, annual psychological screenings of the police service, and resilience and positive coping strategy trainings, as laid out in the recommendations for a trauma risk management strategy in Chapter 6.
The present study further provides an evidence-base for specific policy development within Northern Ireland. As Chapter 5 outlines, PSNI personnel have much higher rates of probable psychopathology when compared to both the general population and the global policing populations (Syed et al., 2020). As Northern Ireland has a more than 25% higher average of mental illness in comparison to England (Department of Health, 2014), it is perhaps not surprising that the police also reflect increased rates of poor mental health. The exceptionally high figures of probable psychopathology should be immediately addressed by policy makers in Northern Ireland and the United Kingdom to protect and conserve the mental health of PSNI personnel. The mental health of the general Northern Irish population, coupled with the exceptionally high rates of poor mental health within the police service, justifies immediate policy change within the PSNI.

Furthermore, the PSNI continue to receive inadequate funding and resourcing from policy makers in order to meet the needs of the service, significantly contributing to the overall stress of individual officers and staff. In comparison to England, Scotland and Wales, the post-conflict setting of Northern Ireland creates a unique environment for police, which necessitates the allocation of additional resourcing. This recommendation for policy change is supported by the findings of the interviews in Chapter 4 and the focus group discussion in Chapter 6, where austerity and resourcing were identified as significant barriers to the implementation of change within the service.

Finally, increasing policy makers awareness of the various individual, organisational, and operational risk factors that contribute to adverse mental health outcomes of police is paramount in protecting police officers and staff from psychological harm. There is a duty of care both at a governmental and organisational
level to provide adequate resources, trainings, screenings and policies that preserve the mental well-being of those officers and staff who work to protect our communities.

7.3.2 Implications for practice

The current study has direct implications for practice at the PSNI and as well as for police forces internationally. More specifically, MHS will be able to use these findings to improve the services they provide to police officers and staff. The value of conducting research to enhance clinical services has been highlighted by previous studies (Wershler et al., 2018). Given that avoidance coping and lack of emotional stability are strongly associated with all mental health outcomes, as described in both the systematic literature review and results of the survey data in Chapters 4 and 5, police forces should pay particular attention to these individual factors for both new recruits and current personnel. Ensuring that individuals maintain good coping strategies and emotional stability is essential to keeping their police workforce psychologically robust. While screening for these individual factors for new recruits is an important practice to establish, ongoing screening should be implemented as well due to the long-term impacts that stress and trauma can have on an individual’s ability to cope and maintain their emotional stability (Mitchell & Bray, 1990).

In tandem with screening new recruits, officers and staff for individual risk factors such as personality and coping style, additional trainings may enhance overall psychological well-being. Giving police the necessary education and tools to use positive coping strategies has the potential to significantly reduce the impact that the stress of the job has on their mental health. Additionally, while personality is largely considered an immutable trait, enhancing certain characteristics have been shown to increase resilience to stress, described by the present study as emotional stability, extraversion and agreeableness, with resilient personality traits associated with effective coping
(Matthews, Zeidner, & Roberts, 2015). Therefore, it may be possible that by enhancing both personality traits, namely emotional stability, and positive coping skills may help to reduce rates of poor mental health among the police.

Several stratagem are also recommended with regards to the occupational factors found to impact on mental health outcomes among police officers. First, this study advocates for a reduction of mental health stigma within police organisations through the use of psychoeducation and normalising the use of mental health services. In practice, this benefit would be twofold. Police officers and staff may experience a reduction in psychopathological symptomology, as perceived stigma reduces, and, as access to mental health services increases, police forces may also see a reduction in mental illness amongst its workforce. Fostering an environment where individuals do not feel emotive dissonance and can openly share the impacts of the stress and trauma exposure of the job with colleagues can positively impact mental health outcomes for police. In particular, using a top-down approaches to psychological wellness, reducing mental health stigma and encouraging a psychologically supportive environment may be especially beneficial for individual police officers and staff (Magaletta, Hom, Stanley, & Joiner, 2020).

As findings from both the interviews and survey highlight, the negative consequences of high demand police organisations suggest a review of the amount of workload placed on officers and staff. For example, some positions, such as frontline policing, could rotate job roles between being on duty as an officer and administrative tasks. Rotating roles may not only reduce the overall burden of demand placed on officers, but also lower the risk of anxiety, depression, burnout and STS. Additionally, where particular units are experiencing particularly high demands, it may be necessary to increase staff numbers so that workload targets are more reasonable and realistic to achieve. Increasing force strength, the total number of officers and staff in a service,
would be the most beneficial in reducing the demand placed on individual personnel through the disbursement of workload to more people. However, this is not feasible for all police services and thus particular attention should be made to those units who identify with having the highest demand as a priority.

The high risk of security-related stressors was also identified in this study. The PSNI should provide further support for those officers and staff, as well as their families, who have been identified as being the target, or potential target, of terror threat. These exposures are particularly stressful to PSNI officers and the findings from Chapter 5 suggest that being exposed to terror threat and other security-related issues increases the risk of the development of PTSD, CPTSD, and STS. Where the service provides prompt, meaningful support and interventions for those encountering security and terror threat, this may help mitigate the negative psychological consequences.

Similarly, the internal procedures of the PSNI can be particularly stressful for police staff and officers. A review of the internal procedures regarding internal investigations, seizing of properties, the arrest of officers and staff due to work-related potential misconduct, and all other potentially demoralising and ostracising procedures should be reviewed to determine whether there are procedures that could be put in place to reduce the impact of these events on officers. For example, putting time constraints on the length of these procedures and providing additional support so as to not ostracise personnel from the organisation. As one participant stated in the focus group in Chapter 6, the stress of being under investigation and suspended from your job is particularly stressful in the event where you are wrongly accused.

Taken together, specific recommendations for a risk management strategy have been developed with the PSNI, with the aim to reduce the rates of adverse mental health outcomes. To enhance and encourage changes to practice for police practitioners, the
results from this study have been translated into a straightforward, comprehensive list of recommendations which outline the key findings for the PSNI (see Appendix I). Much of the language used in the development of the risk management strategy recommendations was based on how the findings were discussed the focus group. This allowed the results of the study, and subsequent recommendations, to align themselves with the jargon of the PSNI. The final amended recommendations have been presented to the Chief Constable and Senior Executive Team for consideration as discussed in the focus groups. These recommendations, as adapted as a result of the focus groups described in Chapter 6, include:

1) Annual psychological screening of the service
2) New recruit screening for individual risk factors
3) Implementation of trainings to develop positive coping strategies and enhance emotional stability
4) Review of the demand on the service
5) Implementation of exercises and trainings to increase organisational support between peers and managers and to reduce mental health stigma within the service
6) Review of internal PSNI procedures that involve high-stress situations for PSNI personnel
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Appendices

Appendix A

Interview Guide

Hello __________, thank you for taking the time to participate in this important piece of research. I first want to give you a brief overview of what we will be discussing today…

This research is interested in the types of stress that you encounter as a result of working for the Police Service of Northern Ireland. I would like to understand the types of stress that you face both due to the PSNI as an organisation as well as those that you encounter as a part of your operational role as an officer/staff. I am particularly interested in gaining more information on the unique context of policing in Northern Ireland.

The information that is collected from today’s interview will be used to develop a context-sensitive questionnaire to be distributed throughout the PSNI. The details you give are essential to ensure that this research captures all of the elements of stress related to working as a police officer in Northern Ireland. The final results of this study will be used to create recommendations towards a trauma-risk management strategy for the PSNI. I hope to use the information provided today, and throughout the study, to increase psychological well-being of PSNI officers and mitigate poor mental health outcomes as a result of working for the police.

This interview will take approximately 30 minutes.
You are free to withdraw from the interview at any point.

*Sign consent form*

Do you have any questions before we get started?
Just to help me with my notes is it okay for me to record our conversation?

A) Let me begin by asking a few questions about you…
- How long have you been working for the PSNI/RUC?
- What unit do you work in?
- What is your rank at the PSNI?
- Briefly, what has your overall experience been working for the PSNI?

B) Now I would like to talk about the PSNI as an organisation…
- In your view, how do you feel that the PSNI is operating as an organisation?
- What are the benefits of working for the PSNI?
- What types of stress do you encounter as a result of the PSNI as an organisation?
  - This would include things to do with the organisation as a whole
  - What are the challenges in working for the PSNI? – work load, managers, etc.
- How, if at all, could the PSNI improve for its employees?
- Do you think there are unique stressors at the PSNI which police services in other countries do not routinely encounter?
C) Next, I would like to discuss your role as a police officer/staff… *(This includes anything related to your operations and being in the field, not due to the organisation)*

- Can you briefly describe your job role and responsibilities?
- Could you please describe the various types of stress that you encounter as a result of your role?
  - Show CIHQ list
- What types of stress do you think are unique for police officers in Northern Ireland?
  - Stress that police officers in other places such as England or the USA do not have to routinely encounter

That is the end of our interview.
Do you have any other questions or would you like to add anything else to your responses?
Thank you very much for participating in this research.
Can I just confirm that I have the correct contact details?
Appendix B
PSNI Stress & Trauma Survey
PSNI Stress & Trauma Survey

Participant Consent

I voluntarily agree to participate in this research study. I understand that even if I agree to participate now, I can withdraw my participation without any consequences of any kind. I understand that I can withdraw permission to use data from my survey at any time prior to publication.

I have had the purpose and nature of the study explained to me in writing and I have had the opportunity to ask questions about the study. I understand that participation involves taking part in an online survey. I understand that I will not benefit directly from participating in this research.

I understand that all information I provide for this study will be treated confidentially and my participation in this research will be kept anonymous. I understand that in any report, policy brief, or other dissemination of the research findings, my identity will remain anonymous. This will be done by removing any disguising details of my survey which may reveal my identity.

I understand that signed consent forms and survey data will be retained in a secure, encrypted database and that my survey, in which all identifying information has been removed, will be retained for 5 years in a secure, encrypted database at Trinity College Dublin.

I understand that under freedom of information legalisation I am entitled to access the information I have provided at any time while it is in storage as specified above. I understand that I am free to contact any of the people involved in the research to seek further clarification and information.
I have read, or had read to me, the information leaflet for this project and I understand the contents. I have had the opportunity to ask questions and all my questions have been answered to my satisfaction. I freely and voluntarily agree to be part of this research study, though without prejudice to my legal and ethical rights. I understand that I may withdraw from the study at any time and I have received a copy of this agreement. I agree to the information collected being used in future studies and to the possible publication of this research.

**Q1** Participant consent:
- [ ] I consent to the above information and to taking part in this survey
- [ ] I do not consent

**Q2** All participants must give consent prior to taking part in this survey, do you give consent?
- [ ] I consent to the above information and to taking part in this survey
- [ ] I do not consent

**Introduction**
Thank you for agreeing to take part in our important research measuring police stress and psychological outcomes. The following set of questions will cover various individual, organisational and operational stressors, as well as the psychological impacts of these stressors. The aim of this research is to identify the key areas of stress that police officers and police staff face as a result of working for the Police Service of Northern Ireland. Additionally, this research will address these areas of risk through developing recommendations towards a risk management strategy with Mental Health Services, OHW at the PSNI. This research is funded from the European Commission and will be analysed independently of the PSNI, ensuring that the answers you give will remain confidential. Additionally, no personal identifiers (such as names or date of birth) will be collected for this survey.

The survey should take between 20 - 30 minutes to complete. **We request that you take the time to complete the survey in its entirety in a single session, as ending the survey or timing out will loose all entered data.** Your honest answers and opinions are greatly valued in this research.

Please follow the specific instructions for each section of the questionnaire. You will be asked a variety of questions regarding various sources of individual, organisational and operational stress and trauma exposure. You will also be asked about how these various sources of stress have impacted on you. Some of the sections in this questionnaire refer to a specific time frame, where others are more general - please answer according to the given time frame.

**We want to assure you once more that all responses are kept in the strictest of confidence and no individual data or responses will be shared with anyone outside of the immediate research team. The information provided to the PSNI will solely be issued in aggregated form.**

**Demographics**
**Q3** Are you....
- [ ] Male
- [ ] Female
Q4  What is your age?
   □ years

Q5  Are you...
   □ Married
   □ Living with partner
   □ Single
   □ Divorced
   □ Separated
   □ Widowed

Q6  Do you have children?
   □ Yes
   □ No

Q7  How many children do you have?
   ________

Q8  How old are they? (tick all that apply)
   □ Under 2 years
   □ 2 - 5 years
   □ 6 - 10 years
   □ 11 - 16 years
   □ 17+ years

Q9  What is your highest education achieved?
   □ Secondary Education (GCSE/O-Levels)
   □ Post-Secondary Education (College, A-Levels, NVQ3 or below, or similar)
   □ Vocational Qualification (Diploma, Certificate, BTEC, NVQ 4 and above, or similar)
   □ Undergraduate Degree (BA, BSc etc.)
   □ Post-graduate Degree (MA, MSc etc.)
   □ Doctorate (PhD)

Q10 Where are you currently posted for work?
   □ Headquarters (including Gamerville)
   □ Antrim and Newtownabbey
   □ Ards and North Down
   □ Armagh City, Banbridge and Craigavon
   □ Belfast City
   □ Causeway Coast and Glens
   □ Derry City and Strabane
   □ Fermanagh and Omagh
   □ Lisburn and Castlereagh
   □ Mid and East Antrim
   □ Mid Ulster
   □ Newry, Mourne and Down
Q11 How long have you worked for the Police Service of Northern Ireland - including time in the RUC? (If less than one full year, please round up to 1)

[ ] year(s)

Q12 Are you a police officer or police staff?

☐ police officer
☐ police staff

Q13 What rank are you?

☐ Constable Part time
☐ Part time Reserve
☐ Full time Reserve
☐ Constable
☐ Sergeant
☐ Inspector
☐ Chief Inspector
☐ Superintendent
☐ Chief Superintendent
☐ Chief Constable / Deputy or Assistant

Q14 In which do you work?

☐ Command
☐ Corporate Communications
☐ Crime Operations
☐ District Policing
☐ Finance and Audit
☐ Legacy and Justice
☐ Operational Support

Q15 Which do you work in?

☐ Corporate Support
☐ Legal Services
☐ Other

Q16 In which do you work?

☐ Branch / Department heads, management, and planning
☐ Crime Investigation Branch
☐ Intelligence
☐ Public Protection
☐ Serious Crime
☐ Special Operations
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<thead>
<tr>
<th>Q17</th>
<th>In which do you work?</th>
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<tbody>
<tr>
<td>☐ Crime Investigation Department</td>
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<tr>
<td>☐ Economic Crime</td>
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<tr>
<td>☐ Organised Crime</td>
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<tr>
<td>☐ Other</td>
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<th>In which do you work?</th>
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<td>☐ Intelligence Hub</td>
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<tr>
<td>☐ Source Handling Unit</td>
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<td>☐ Other</td>
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<th>In which do you work?</th>
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<td>☐ Child Sexual Exploitation</td>
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<tr>
<td>☐ Domestic Abuse</td>
<td></td>
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<tr>
<td>☐ Offender Management</td>
<td></td>
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<tr>
<td>☐ Rape Crime Unit</td>
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<td>☐ Other</td>
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<th>Q20</th>
<th>In which do you work?</th>
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<td>☐ Major Investigation Team</td>
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<td>☐ Special Investigations</td>
<td></td>
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<tr>
<td>☐ Terrorist Investigation Unit</td>
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<tr>
<td>☐ Other</td>
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<table>
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<th>In which do you work?</th>
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<td>☐ HIMSU</td>
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<tr>
<td>☐ Operations Centre</td>
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<tr>
<td>☐ Operations Technical Support</td>
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<tr>
<td>☐ Surveillance</td>
<td></td>
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<tr>
<td>☐ Other</td>
<td></td>
</tr>
</tbody>
</table>
Q22 In which do you work?
- Area Crime Management
- Call Management Centre - head or supervisor
- Case Progression
- Coordination / Task
- Crime Team
- Community Planning
- Court Liaison
- Custody Officer
- Dispatcher
- District Command
- E-Crime / Video ID
- Local Policing Team
- Neighbourhood Policing Team
- Operations Planning
- Repeat Offender Unit
- Trainer
- Volume Crime
- Youth Development
- Other

Q23 In which do you work?
- Weapons Control Driver
- Other

Q24 In which do you work?
- Legacy
- Justice

Q25 In which do you work?
- Armed Support
- Close Protection
- Emergency Planning / Security Advisor
- Explosive Blasting Unit
- Firearms
- Road Police
- Tactical Support Group
- Trainer
- Other
Q26  In which do you work?
- Command
- Corporate Communications
- Crime Operations
- District Policing
- Finance and Support
- Human Resources
- Legacy and Justice
- Operational Support

Q27  What is your role/title?
- Admin Support Officer
- Deputy Principle
- Executive Officer Grade 1
- Executive Officer Grade 2
- Holmes Index
- Legal advisor - all grades
- Programmer
- Secretary
- Staff Officer
- Typist
- Other

Q28  In which do you work?
- Crime Investigation Branch
- Intelligence
- Public Protection
- Serious Crime
- Special Operations
Q29 What is your role/title?
- Admin Support Officer
- Air Support Pilot
- Analyst
- Assistant Investigator
- Deputy Principle
- Desk Liaison Officer
- Executive Officer Grade 1
- Executive Officer Grade 2
- Exhibits and Disclosure Officer
- FIN INVEST
- Holmes Index
- Intelligence Officer
- Major Crime Forensic Advisor
- Programmer
- Secretary
- Staff Officer
- Trainer
- Transport Coordinator
- Typist
- Other

Q30 What is your role/title?
- Admin Support Officer / Assistant
- Duainea Service Manager
- Crime Prevention
- Detention Officer
- Dispatcher
- Executive Officer Grade 1
- Executive Officer Grade 2
- Firearms Support
- Programmer
- Secretary
- Station Reception
- Support Grade Band 1
- Support Manager
- Support Officer
- Trainer
- Transport Coordinator
- Typist
- Other
Q31 Which do you work in?
- Occupational Health
- Other

Q32 In which do you work?
- Mental Health Services
- Other

Q33 Do you work in Scientific Support?
- Yes
- No

Q34 What is your role/title?
- Admin Support Officer
- Administrative Support Assistant
- Assistant Investigator
- Deputy Principle
- Executive Officer Grade 1
- Executive Officer Grade 2
- Information Communications Technology
- Secretary
- Typist
- Other

Q35 What is your role in scientific support?
- Crime Scene Investigation / Forensic Authorisation Unit
- Fingerprint
- Imaging
- Other

Q36 What is your role/title?
- Admin Support Officer
- Administrative Support Assistant
- Deputy Principle
- Executive Officer Grade 1
- Executive Officer Grade 2
- Information Communications Technology
- Programmer
- Secretary
- Support Officer
- Trainer or Instructor
- Transport Coordinator
- Typist
- Other
Q37  How many years have you been in your current role? (If less than one full year, please round up to 1)


Q38  1) Please select any and all secondary operational roles that you have been involved with in the last year. Secondary roles refer to those that you have taken on in addition to your primary operational role.

2) You will then be asked about the number of years you've spent in any identified role (If less than one full year, please round up to 1).

(*Tick all that apply*)

<table>
<thead>
<tr>
<th>Role</th>
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<tr>
<td>Body Recovery and Disaster Victim Identification Team</td>
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<tr>
<td>Chemical, Biological, Radiological and Nuclear Response</td>
</tr>
<tr>
<td>CT Security Coordinator</td>
</tr>
<tr>
<td>Joint Emergency Services Interoperability Programme</td>
</tr>
<tr>
<td>Family Liaison Officer - Road Traffic Collisions</td>
</tr>
<tr>
<td>Family Liaison Officer - Crime</td>
</tr>
<tr>
<td>Federation Representative</td>
</tr>
<tr>
<td>Firearms Commander / Tactical Advisor</td>
</tr>
<tr>
<td>Hostage and Crisis Negotiator</td>
</tr>
<tr>
<td>Humane Destruction of Injured, Diseased or Alive Animals</td>
</tr>
<tr>
<td>Peer Support Debriefing</td>
</tr>
<tr>
<td>Police Search Advisor</td>
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<tr>
<td>Post Incident Manager</td>
</tr>
<tr>
<td>Public Order Commander / Tactical Advisor</td>
</tr>
<tr>
<td>Search and Rescue</td>
</tr>
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<td>Senior Identification Manager</td>
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<tr>
<td>Union Representative</td>
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<tr>
<td>Use of Less Lethal Technology Against an Armed, Threatening Subject</td>
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<td>Other (1)</td>
</tr>
<tr>
<td>Other (2) - if more than one other role</td>
</tr>
<tr>
<td>Other (3) - if more than two other roles</td>
</tr>
</tbody>
</table>

Q38  If other (1), please specify:

Q38  If other (2), please specify:

Q38  If other (3), please specify:

Q39  Approximately how long have you been involved in the Body Recovery and Disaster Victim Identification Team?


Q40 Approximately how long have you been involved in Chemical, Biological, Radiological and Nuclear Response?

[ ] years

Q41 Approximately how long have you been involved as a CT Security Coordinator?

[ ] years

Q42 Approximately how long have you been involved in Joint Emergency Services Interoperability Programme?

[ ] years

Q43 Approximately how long have you been involved as a Family Liaison Officer - RTC?

[ ] years

Q44 Approximately how long have you been involved as a Family Liaison Officer - Crime?

[ ] years

Q45 Approximately how long have you been involved as a Federation Representative?

[ ] years

Q46 Approximately how long have you been involved as a Firearms Commander / Tactical Advisor?

[ ] years

Q47 Approximately how long have you been involved as a Hostage and Crisis Negotiator?

[ ] years

Q48 Approximately how long have you been involved in the Humane Destruction of Injured, Diseased or Alive animals?

[ ] years

Q49 Approximately how long have you been involved as a Peer Support Debriefee?

[ ] years

Q50 How long have you been involved as a Police Search Advisor?

[ ] years

Q51 Approximately how long have you been involved as a Post Incident Manager?

[ ] years
Q52  Approximately how long have you been involved as a Public Order Commander / Tactical Advisor?
   □ years

Q53  Approximately how long have you been involved in Search and Rescue?
   □ years

Q54  Approximately how long have you been involved as a Senior Identification Manager?
   □ years

Q55  Approximately how long have you been involved as a Union Representative?
   □ years

Q56  Approximately how long have you been involved in the Use of Less Lethal Technology Against an Armed, Threatening Subject?
   □ years

Q57  Approximately how long have you been involved in this “other (1)” role?
   □ years

Q58  Approximately how long have you been involved in this “other (2)” role?
   □ years

Q59  Approximately how long have you been involved in this “other (3)” role?
   □ years

You are reminded that your answers are confidential and no individual’s information will be shared.

Instructions: Listed below are a number of difficult or stressful things that sometimes happen to people. For each event, (1) tick the box in the first column if it happened in childhood and (2) tick the box in the second column if it happened in adulthood.

Please answer the following questions in relation to your personal life, not your work life.

Q60  Select all that apply to you:

   Did a parent or other household adult have a mental illness?  □

   Did a parent or other household member often swear at, insult, or put you down?  □

   Did a parent or other household adult ever physically push, grab shove or slap you?  □
<table>
<thead>
<tr>
<th>Question</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q60</td>
<td>Did a parent or other household adult ever hit you so hard that it injured you or left marks?</td>
</tr>
<tr>
<td>Q60</td>
<td>Did you live with anyone who was a problem drinker/alcoholic or was dependent on drugs?</td>
</tr>
<tr>
<td>Q60</td>
<td>Did you ever witness a family member being physically abused (punched, kicked, grabbed, slapped, etc.)?</td>
</tr>
<tr>
<td>Q60</td>
<td>Combat or exposure to a war-zone, including The Troubles (in the military or as a civilian)</td>
</tr>
<tr>
<td>Q60</td>
<td>Captivity (for example being kidnapped, abducted, held hostage, prisoner of war)</td>
</tr>
<tr>
<td>Q60</td>
<td>Severe human suffering</td>
</tr>
<tr>
<td>Q60</td>
<td>Sudden, violent death to someone close to you (for example, homicide; suicide)</td>
</tr>
<tr>
<td>Q60</td>
<td>Sudden, unexpected death of someone close to you</td>
</tr>
<tr>
<td>Q60</td>
<td>Serious injury, harm or death you caused to someone else - not related to police work</td>
</tr>
<tr>
<td>Q60</td>
<td>Transportation accident (for example, car accident, boat accident, train wreck, plane crash)</td>
</tr>
<tr>
<td>Q60</td>
<td>Serious accident at work (not including police work), at home, or during recreational activity</td>
</tr>
<tr>
<td>Q60</td>
<td>Exposure to toxic substance - outside of police work (for example, dangerous chemicals, radiation)</td>
</tr>
<tr>
<td>Q60</td>
<td>Physical assault outside of work (for example, being attacked, hit, slapped, kicked, beaten up)</td>
</tr>
<tr>
<td>Q60</td>
<td>Assault with a weapon - outside of police work (for example, being shot, stabbed, threatened with a knife, gun, bomb)</td>
</tr>
<tr>
<td>Q60</td>
<td>Sexual assault (rape, attempted rape, molestation or any other sexual act through force or threat of harm)</td>
</tr>
<tr>
<td>Q60</td>
<td>Other unwanted or uncomfortable sexual experience</td>
</tr>
<tr>
<td>Q60</td>
<td>Severe financial difficulties</td>
</tr>
</tbody>
</table>
Q61 Instructions: As a result of working for the police, you may encounter various types of critical incidents.

Please indicate if you have experienced these incidents during the course of your career:

(tick all that apply)

☐ Being seriously injured intentionally.
☐ Being seriously injured accidentally.
☐ Being present when a fellow officer/staff was killed intentionally.
☐ Being present when a fellow officer/staff was killed accidentally.
☐ Being present when a fellow officer/staff was seriously injured intentionally.
☐ Being present when a fellow officer/staff was seriously injured accidentally.
☐ Being seriously assaulted.
☐ Being taken hostage.
☐ Being involved in public order incidents / riot control.
☐ Receiving verbal threats against yourself while on duty.
☐ Receiving threats towards your loved ones as retaliation for your police work.
☐ Being shot at.
☐ Being threatened with a gun.
☐ Being threatened with a knife or other weapon.
☐ Being involved at a scene with a potential explosive device.
☐ Being involved at a scene where a device has detonated.
☐ Being trapped in a potentially life-threatening situation.
☐ Being exposed to serious risk of AIDS or other life-threatening diseases.
☐ Having your life threatened by an aggressive and dangerous animal.
☐ Being exposed to a life-threatening toxic substance.
☐ Having to kill or seriously injure someone in the line of duty.
☐ Having to shoot at someone in the line of duty, without injuring them.
☐ Making a mistake that lead to the serious injury or death of a fellow officer/staff member.
☐ Making a mistake that lead to the serious injury or death of a bystander.
☐ Being involved in a high-speed pursuit where lives were in danger.
☐ Seeing someone dying.
☐ Encountering the body of someone recently dead.
☐ Encountering a decaying corpse.
☐ Encountering a mutilated body or human remains.
☐ Having to touch, move, or tag a corpse or human remains.
☐ Attending a post mortem.
☐ Working closely with a victims family who are severely distressed.
☐ Interviewing victims of sexual or violent crime.
☐ Delivering a death notification.
☐ Encountering a child who had been sexually assaulted.
☐ Encountering a child who had been badly beaten.
☐ Encountering an adult who had been sexually assaulted.
☐ Encountering an adult who had been badly beaten.
☐ Encountering a child who was severely neglected or in dire need of medical attention because of neglect.
☐ Encountering animals that had been severely neglected, intentionally injured, or killed.
☐ Having your life endangered in a large-scale man-made disaster.
☐ Having your life endangered in a large-scale natural disaster.
☐ Viewing images/videos/materials of children being physically or sexually abused.
☐ Viewing images/videos/materials of adults being physically or sexually assaulted.
☐ Viewing images/videos/materials of animals being abused.
☐ Being ambushed or being the target of a secondary attack at a scene or incident.

Instructions: Please identify the traumatic incident or stressful experience that troubles you most and answer the questions below in relation to this experience. This experience can be personal or police-related.

Again, remember that your responses are anonymous and confidential, so please answer honestly.

Q62 Brief description of the experience:


Q63 Was this experience personal or police-related?
- Personal
- Police-related

Q64 When did this experience occur?
- less than 6 months ago
- 6 to 12 months ago
- 1 to 5 years ago
- 5 to 10 years ago
- 10 to 20 years ago
- more than 20 years ago

Q65 Below are a number of problems that people sometimes report in response to traumatic or stressful life events. Please read each item carefully, then select the appropriate response to indicate how much you have been bothered by that problem in the past month.

<table>
<thead>
<tr>
<th>Problem Description</th>
<th>Not at all</th>
<th>A little bit</th>
<th>Moderately</th>
<th>Quite a bit</th>
<th>Extremely</th>
</tr>
</thead>
<tbody>
<tr>
<td>Having upsetting dreams that replay part of the experience or are clearly related to the experience?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Having powerful images or memories that sometimes come into your mind in which you feel the experience is happening again in the here and now?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Avoiding internal reminders of the experience (for example, thoughts, feelings, or physical sensations)?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Avoiding external reminders of the experience (for example, people, places, conversations, objects, activities, or situations)?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Being “super-alert”, watchful, or on guard?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Feeling jumpy or easily startled?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Q66 In the past month have the above problems:

<table>
<thead>
<tr>
<th>Problem Description</th>
<th>Not at all</th>
<th>A little bit</th>
<th>Moderately</th>
<th>Quite a bit</th>
<th>Extremely</th>
</tr>
</thead>
<tbody>
<tr>
<td>Affected your relationships or social life?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Affected your work or ability to work?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Affected any other important part of your life such as parenting, or school or college work, or other important activities?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Q67 Below are problems that people who have had stressful or traumatic events sometimes experience. The questions refer to ways you typically feel, ways you typically think about yourself and ways you typically relate to others. Answer the following thinking about how true each statement is of you.

**How true is this of you?**

<table>
<thead>
<tr>
<th>Feeling or behavior</th>
<th>Not at all</th>
<th>A little bit</th>
<th>Moderately</th>
<th>Quite a bit</th>
<th>Extremely</th>
</tr>
</thead>
<tbody>
<tr>
<td>When I am upset, it takes me a long time to calm down.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I feel numb or emotionally shut down.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I feel like a failure.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Q67  I feel worthless.
Q67  I feel distant or cut off from people.
Q67  I find it hard to stay emotionally close to people.
Q68  *In the past month, have the above problems in emotions, in beliefs about yourself and in relationships:*

<table>
<thead>
<tr>
<th>Created concern or distress about your relationships or social life?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not at all</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>
Q68  Affected your work or ability to work?
Q68  Affected any other important part of your life such as parenting, or school or college work, or other important activities?

The next set of questions ask about particular stressors associated with the PSNI as an organisation.

**You are reminded that your answers are anonymous and confidential, and that all data is being analysed independently of the PSNI in order to produce non-biased feedback to the organisation.**

Instructions: It is recognised that working conditions affect worker well-being. Your responses to the questions below will help us determine your working conditions now and enable us to monitor future improvements.

*It is important that your responses reflect your current job role at the PSNI and/or focuses on the last six months.*

Q69  **Please tick the relevant box that corresponds with how you feel in your current position:**

<table>
<thead>
<tr>
<th>I am clear what is expected of me at work</th>
</tr>
</thead>
<tbody>
<tr>
<td>Never</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>
Q69  I can decide when to take a break
Q69  Different groups at work demand things from me that are hard to combine
Q69  I know how to go about getting my job done
Q69  I am subject to personal harassment in the form of unkind words or behaviour
Q69  I have unachievable deadlines
Q69  If work gets difficult, my colleagues will help me
Q69  I am given supportive feedback on the work I do
Q69  I have to work very intensively
Q69  I have a say in my own work speed
Q69  I am clear what my duties and responsibilities are
Q69  I have to neglect some tasks because I have too much to do
Q69  I am clear about the goals and objectives for my department
| Q69 | There is friction or anger between colleagues |
| Q69 | I have a choice in deciding how I do my work |
| Q69 | I am unable to take sufficient breaks |
| Q69 | I understand how my work fits into the overall aim of the organisation |
| Q69 | I am pressured to work long hours |
| Q69 | I have a choice in deciding what I do at work |
| Q70 | I have to work very fast |
| Q70 | I am subject to bullying at work |
| Q70 | I have unrealistic time pressures |
| Q70 | I can rely on my line manager to help me out with a work problem |
| Q70 | I get help and support I need from colleagues |
| Q70 | I have some say over the way I work |
| Q70 | I have sufficient opportunities to question managers about change at work |
| Q70 | I receive the respect at work I deserve from my colleagues |
| Q70 | Employees are always consulted about change at work |
| Q70 | I can talk to my line manager about something that has upset or annoyed me about work |
| Q70 | My working time can be flexible |
| Q70 | My colleagues are willing to listen to my work-related problems |
| Q70 | When changes are made at work, I am clear how they will work out in practice |
| Q70 | I am supported through emotionally demanding work |
| Q70 | Relationships at work are strained |
| Q70 | My line manager encourages me at work |
Q71 Have any of the following ever happened to you during your career at the PSNI:

(tick all that apply)

☐ Being served with internal investigation papers
☐ Being involved in an investigation with the Police Ombudsman
☐ Being arrested due to an incident which occurred on duty
☐ Being suspended from work
☐ Having your own home or property seized or searched
☐ Being subject of a campaign of bullying by a colleague or manager
☐ Dropping to half pay as a result of injury on duty
☐ Attending an industrial tribunal in relation to an employment matter involving PSNI
☐ Refused flexible working
☐ Absence Management Panel (AMP) procedure
☐ Perceiving organisational injustice in others
☐ Cancelled leave

Instructions: Listed below are statements that represent possible opinions that YOU may have about working at the PSNI. Please indicate the degree of your agreement or disagreement with each statement by selecting the answer that best represents your point of view about the PSNI as an organization.

Q72 Please select how much you agree or disagree with the following statements:

<table>
<thead>
<tr>
<th>The organization values my contribution to its well-being</th>
<th>Strongly Disagree</th>
<th>Moderately Disagree</th>
<th>Slightly Disagree</th>
<th>Neither Agree nor Disagree</th>
<th>Slightly Agree</th>
<th>Moderately Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q72 The organization fails to appreciate any extra effort from me</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Q72 The organization would ignore any complaint from me</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Q72 The organization really cares about my well-being</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Q72 Even if I did the best job possible, the organization would fail to notice</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Q72 The organization cares about my general satisfaction at work</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Q72 The organization shows very little concern for me</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Q72 The organization takes pride in my accomplishments at work</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>
Q73 In relation to your role at the PSNI, which security-related issues have you encountered:

(tick all that apply)

☐ I check under my car before driving most, or all, days
☐ I have been the subject of personal threat
☐ My family has been the subject of personal threat
☐ I have been the subject of a personal terrorist attack
☐ My family has been the subject of a personal terrorist attack
☐ I have had to have a security package fitted at my home
☐ I have had to move house due to being under threat
☐ I have had to move under SPED (Special Purchase of Evacuated Dwellings)
☐ I have had to give evidence in court with the fear of being identified by dissident terrorist groups

Instructions: This set of questions asks you about different feelings and experiences you have been having recently.

You are reminded that your answers are anonymous and confidential, and that all data is being analysed independently of the PSNI in order to produce non-biased feedback to the organisation.

Q74 Over the last 2 weeks, how often have you been bothered by the following problems?

<table>
<thead>
<tr>
<th>Feeling</th>
<th>Not at all</th>
<th>Several days</th>
<th>More than half the days</th>
<th>Nearly everyday</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q74 Not being able to stop or control worrying</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Q74 Worry too much about different things</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Q74 Trouble relaxing</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Q74 Being so restless that it is hard to sit still</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Q74 Becoming easily annoyed or irritable</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Q74 Feeling afraid as if something awful might happen</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

Q75 If you checked off any problems, how difficult have these problems made it for you to do your work, take care of things at home, or get along with other people?

☐ Not difficult at all
☐ Somewhat difficult
☐ Very difficult
☐ Extremely difficult
☐ I selected ‘not at all’ for all answers above

Q76 Over the last 2 weeks, how often have you been bothered by the following problems?

<table>
<thead>
<tr>
<th>Feeling</th>
<th>Not at all</th>
<th>Several Days</th>
<th>More than half the days</th>
<th>Nearly everyday</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q76 Little interest of pleasure in doing things</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Q76 Feeling down, depressed, or hopeless</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Q76 Trouble falling or staying asleep, or sleeping too much</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Q76 Feeling tired of having little energy</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Q76 Poor appetite or overeating</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Q76</td>
<td>Feeling bad about yourself - or that you are a failure or have let yourself or your family down</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Q76</td>
<td>Trouble concentrating on things, such as reading the newspaper or watching television</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Q76</td>
<td>Moving or speaking so slowly that other people could have noticed? Or the opposite - being so fidgety or restless that you have been moving around a lot more than usual</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Q76</td>
<td>Thoughts that you would be better off dead or of hurting yourself in some way</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

Instructions: When you help people as a police officer or staff member you have direct contact with their lives. As you may have found, your compassion for those you help can affect you in positive and negative ways. Below are some questions about your experiences, both positive and negative, as a PSNI officer/staff. Consider each of the following questions about you and your current work situation.

Q77 Select the option that honestly reflects how frequently you experienced these things in the last 30 days:

<table>
<thead>
<tr>
<th></th>
<th>Never</th>
<th>Rarely</th>
<th>Sometimes</th>
<th>Often</th>
<th>Very often</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>I am happy.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>I am preoccupied with more than one person I help.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>I get satisfaction from being able to help people.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>I feel connected to others.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>I jump or am startled by unexpected sounds.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>I feel invigorated after working with those I help.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>I find it difficult to separate my personal life from my life as a police officer/staff</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>I am not as productive at work because I am losing sleep over traumatic experiences of a person I help.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>I think that I might have been affected by the traumatic stress of those I help.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>I feel trapped by my job as a police officer/staff</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Because of my work I have felt &quot;on edge&quot; about various things.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>I like my work as a police officer/staff</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>I feel depressed because of the traumatic experiences of the people I help.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>I feel as though I am experiencing the trauma of someone I have help.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>I have beliefs that sustain me.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>I am pleased with how I am able to keep up with policing techniques and protocols</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Q78</td>
<td>I am the person I always wanted to be.</td>
<td>Never</td>
<td>Rarely</td>
<td>Sometimes</td>
<td>Often</td>
</tr>
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<td>-----</td>
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</tr>
<tr>
<td>Q78</td>
<td>My work makes me feel satisfied.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q78</td>
<td>I feel worn out because of my work as a police officer/staff.</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Q78</td>
<td>I have happy thoughts and feelings about those I help and how I could help them.</td>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Q79</th>
<th>I feel overwhelmed because my case load seems endless.</th>
<th>Never</th>
<th>Rarely</th>
<th>Sometimes</th>
<th>Often</th>
<th>Very often</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q79</td>
<td>I believe I can make a difference through my work.</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Q79</td>
<td>I avoid certain activities or situations because they remind me of frightening experiences of the people I help.</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Q79</td>
<td>I am proud of what I can do to help.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q79</td>
<td>As a result of helping in my work I have intrusive, frightening thoughts.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q79</td>
<td>I feel &quot;bogged down&quot; by the system.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q79</td>
<td>I have thoughts that I am a &quot;success&quot; as a police officer/staff.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Q79</td>
<td>I can't recall important parts of my work with trauma victims.</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Q79</td>
<td>I am a very caring person.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q79</td>
<td>I am happy that I chose to do this work.</td>
<td></td>
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</tbody>
</table>

**Instructions:** We are interested in how people respond when they confront difficult or stressful events in their lives and at work. There are lots of ways to try to deal with stress. This set of questions asks you to indicate what you generally do and feel, when you experience stressful events. Obviously, different events bring out somewhat different responses, but think about what you usually do when you are under a lot of stress.

Please try to respond to each item separately in your mind from each other item. Choose your answers thoughtfully, and make your answers as true for you as you can. There are no “right” or “wrong” answers, so choose the most accurate answer for you—not what you think “most people” would say or do.

**Q80** *Indicate what YOU usually do WHEN YOU experience a stressful event:*

1. I've been turning to work or other activities to take my mind off things.
2. I've been concentrating my efforts on doing something about the situation I'm in.
3. I've been saying to myself "this isn't real."
4. I've been using alcohol or other drugs to make myself feel better.
5. I've been getting emotional support from others.
6. I've been giving up trying to deal with it.
7. I've been taking action to try to make the situation better.
<table>
<thead>
<tr>
<th>Q80</th>
<th>I've been refusing to believe that it has happened</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q80</td>
<td>I've been saying things to let my unpleasant feelings escape</td>
</tr>
<tr>
<td>Q80</td>
<td>I've been getting help and advice from other people</td>
</tr>
<tr>
<td>Q81</td>
<td>I've been using alcohol or other drugs to help me get through it</td>
</tr>
<tr>
<td>Q81</td>
<td>I've been trying to see it in a different light, to make it seem more positive</td>
</tr>
<tr>
<td>Q81</td>
<td>I've been criticizing myself</td>
</tr>
<tr>
<td>Q81</td>
<td>I've been trying to come up with a strategy about what to do</td>
</tr>
<tr>
<td>Q81</td>
<td>I've been getting comfort and understanding from someone</td>
</tr>
<tr>
<td>Q81</td>
<td>I've been giving up the attempt to cope</td>
</tr>
<tr>
<td>Q81</td>
<td>I've been looking for something good in what is happening</td>
</tr>
<tr>
<td>Q81</td>
<td>I've been making jokes about it</td>
</tr>
<tr>
<td>Q81</td>
<td>I've been doing something to think about it less, such as going to movies, watching TV, reading, daydreaming, sleeping, or shopping</td>
</tr>
<tr>
<td>Q81</td>
<td>I've been accepting the reality of the fact that it has happened</td>
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</tbody>
</table>

| Q82 | I've been expressing my negative feelings                                              |
| Q82 | I've been trying to find comfort in my religion or spiritual beliefs                    |
| Q82 | I've been trying to get advice or help from other people about what to do              |
| Q82 | I've been learning to live with it                                                     |
| Q82 | I've been thinking hard about what steps to take                                        |
| Q82 | I've been blaming myself for things that happened                                      |
| Q82 | I've been praying or meditating                                                        |
| Q82 | I've been making fun of the situation                                                  |

**Instructions:** Below are a number of personality traits that may or may not apply to you. Please tick the box next to each statement with how much you agree or disagree with this statement. You should rate the extent to which each of the pair of traits applies to you, even if one characteristic applies more strongly than the other.

<table>
<thead>
<tr>
<th>Q83</th>
<th>I see myself as:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Extraverted, enthusiastic.</td>
</tr>
<tr>
<td></td>
<td>Critical, quarrelsome.</td>
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</tbody>
</table>

![Image](image_url)
Q83 Dependable, self-disciplined.
Q84 Anxious, easily upset.
Q85 Open to new experiences, complex.
Q86 Reserved, quiet.
Q87 Sympathetic, warm.
Q88 Disorganised, careless.
Q89 Calm, emotionally stable.
Q90 Conventional, uncreative.

Q84 Instructions: Next we would like to ask some questions about stigma and your opinions on mental health.

Please select how much you disagree or agree with the following statements:

<table>
<thead>
<tr>
<th>Statement</th>
<th>Disagree</th>
<th>Somewhat Disagree</th>
<th>Undecided</th>
<th>Somewhat Agree</th>
<th>Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>I would not want my significant other (spouse, partner, etc) to know if I were suffering from psychological problems.</td>
<td></td>
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<tr>
<td>Hypothetically, having been mentally ill carries with it a burden of shame.</td>
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<tr>
<td>Important people in my life would think less of me if they were to find out that I was experiencing psychological problems.</td>
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<tr>
<td>I would be uncomfortable seeking professional help for psychological problems because people in my social or business circles might find out about it.</td>
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<tr>
<td>Having been diagnosed with a mental disorder is a blot on a person’s life.</td>
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<tr>
<td>I would feel uneasy going to a professional because of what some people would think.</td>
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<tr>
<td>Had I received treatment for psychological problems, I would not feel that it ought to be &quot;covered up&quot;.</td>
<td></td>
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<tr>
<td>I would be embarrassed if someone from work saw me going into the office of a professional who deals with psychological problems.</td>
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<tr>
<td>Have you ever taken sick-leave from work, either for physical health or mental health reasons?</td>
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<tr>
<td>Yes</td>
<td></td>
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<tr>
<td>No</td>
<td></td>
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<tr>
<td>Have you ever taken sick leave for mental health reasons but told your line manager it was due to physical health reasons?</td>
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<tr>
<td>Yes</td>
<td></td>
<td></td>
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<tr>
<td>No</td>
<td></td>
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<tr>
<td>Have you ever used Occupational Health and Well-being's Mental Health Services?</td>
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</tr>
<tr>
<td>Yes</td>
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<td></td>
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<tr>
<td>No</td>
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</tbody>
</table>
Q88 Have you ever spoken to a mental health professional due to work-related stress or mental health problems privately (outside of PSNI)?
- Yes
- No

Q89 Do you feel counselling support should be increased within your team?
- Yes
- No

Q90 Have you ever been part of a peer debriefing process after an extremely stressful incident?
- Yes
- No

Q91 What is the reason for not attending? *(Please tick all that apply)*
- Have never been a part of an incident that requested debriefing
- Did not have the time
- Felt that attending a debriefing may harm me
- Felt that attending a debriefing may harm my career growth
- Did not feel that the incident bothered me much
- Was not aware that this service was available at the PSNI
- Could be seen as a sign of weakness
- Did not think it would benefit me
- Other external influences
- Other

Q92 If other, please specify:

Q93 How did you find the peer debriefing process?
- Very helpful
- Helpful
- Moderately helpful
- Somewhat helpful
- Not helpful at all

Q94 What aspects of the peer debriefing process were particularly helpful? *(Please tick all that apply)*
- Was able to talk freely about the incident
- Was able to express freely about how I felt during and after the incident
- Was able to process what happened
- Was able to make sense of the fact that these are normal reactions to stressful events
- Was able to have a better rapport with the team members involved in the incident (felt like we understood one another better)
- Was able to get useful information on how to cope
- Was able to get accurate information on how to seek additional help if necessary
- Other

Q94 If other, please specify:
Q95 What aspects of the peer debriefing process could be improved? *(Please tick all that apply)*

- [ ] More assurance of confidentiality needed
- [ ] Was not able to express freely about how I felt during and after the incident
- [ ] Was not able to process what happened, in fact, talking it out made it worse
- [ ] More focus on team work/cohesion needed
- [ ] Better and more information on how to cope would be helpful
- [ ] More options needed on where and how to seek additional help if necessary
- [ ] Other

Q95 If other, please specify

Q96 What organizational factors could be improved in accessing peer debriefing services from Occupational Health and Well-being department? *(Please tick all that apply)*

- [ ] Information about the service needs to be publicized in the PSNI website
- [ ] Information about the service needs to be publicized at each PSNI station
- [ ] Should be able to make a request for peer debriefing directly instead of going through the line manager
- [ ] More guidance from supervisors
- [ ] Other

Q96 If other, please specify:

Q97 If another extremely stressful incident occurs, would you opt for a peer debriefing?

- [ ] Yes
- [ ] No

Q98 Would you recommend peer debriefing to fellow officers / staff?

- [ ] Yes
- [ ] No

End of survey

Thank you very much for taking the time to participate in this survey. Your shared experiences and opinions are greatly appreciated and highly valued.

If taking part in this survey has lead to high levels of distress and you would like to speak to someone, you may contact Mental Health Services within OHW.

Alternatively, you may contact the Inspire hotline. This is a free, confidential phone number that is available 24/7 for telephone counselling in non-urgent situations: 0808 169 2668.

Should you have any concerns or questions you can contact the Principle Research Investigator Larissa Sherwood internally at larissa.sherwood@psni.pnn.police.uk or externally at sherwola@tcd.ie - which ever you prefer.
We hope you will reconsider giving consent and taking part in this research.

You are welcome to take some time to read the Participant Information Leaflet (located alongside the video on Policenet as well as in the email you received) and return to take part in this survey at a later date - the survey will remain open for 4 weeks - closing on the 19th December.

We want to assure you once more that all responses are kept in the strictest of confidence and no individual data or responses will be shared with anyone outside of the immediate research team. The data collected from this survey will be analysed independently of the PSNI. The information provided to the PSNI will solely be issued in aggregated form through a report and recommendations for implementing a risk-management strategy for the organisation.

If you prefer, you may also take part in this survey outside of work, from your personal computer. To do so, simply copy the URL link above and input this into your computer. This survey has been ICS approved for internal and external use.

Should you have any questions or concerns you may contact the Principle Researcher Investigator, Larissa Sherwood. You may contact via internal email: larissa.sherwood@psni.pnn.police.uk or external email: sherwola@tcd.ie - which ever you prefer. All questions, concerns and discussions with the research team will remain confidential.
Appendix C

One Page Brief Summary

Findings

- Significantly higher rates of poor mental health when compared to the general population

- Rates of mental health outcomes for the PSNI
  - Anxiety: 30.9%
  - Depression: 33.3%
  - PTSD/CPTSD: 22.1%
  - Secondary Traumatic Stress: 2.2%
  - Burnout: 1.6%

- District Policing has highest rates of anxiety, depression & overall adverse mental health score

- Legacy and Justice has highest rates of PTSD, CPTSD, STS and Burnout

- **Individual factors**: Avoidance Coping and Emotional Stability consistently two of the highest risk factors for all mental health outcomes
- **Organizational factors**: PSNI Stress and HSE Demand are also highly related to various poor mental health outcomes
- **Operational factors**: Sum CIHQ highly significant for STS and PTSD

Recommendations

- Annual Psychological Screening of the entire service
  - Identified high risk groups biannual
  - Longitudinal data collection
  - Tailored recommendations for individual units based on evidence
  - Evidence of mental health change as a result of implemented strategies

- New-recruit screening for individual risk factors highlighted by the study
  - Coping strategies, personality, history of trauma exposure

- Implementation of training to develop positive coping strategies and emotional stability
  - Recommended at initial trainings for new recruits and for current personnel

- Review of the demand placed on officers and staff
  - Increase staff numbers to relieve workload

- Implement exercises and trainings to increase organizational support, both between peers and management, and reduce mental health stigma

- Review PSNI procedures around potentially stressful situations for officers and staff
Such as: internal investigations, ombudsman investigations, industrial tribunals, suspensions, injury half-pay & absence management

Appendix D

Focus Group Participant Invitation Leaflet

Participant Information Leaflet

Research Title: Identifying Context-Specific Risk Factors for Discrete-Trauma Exposed PSNI Officer Populations

Principal Investigator: Larissa Sherwood, Doctoral Researcher at Trinity College Dublin

Research Team: Dr Frederique Vallieres, Dr Philip Hyland, Dr Jamie Murphy and Dr. Tracey Reid

We would like to invite you to take part in the final phase of an ongoing research study. Before you decide, we want you to understand why the research is being carried out and what it will involve for you. We are therefore providing you with the following information. Please take time to read it carefully. Be sure to contact us if there is anything that is not clear or if you would like more information.

Purpose of the study

This is a PhD study which is a part of the COllaborative Network for Training and EXcellence in psychoTrauamtology (CONTEXT). This research is funded through the European Union's Horizon 2020 research and innovations programme, under the Marie Skłodowska-Curie grant agreement No 72252.

The purpose of this research is to understand your experience working as a police officer for the PSNI. To do this, we will identify the key risk factors, such as excessive workload or repeated traumatic experiences, that may impact on the mental health of PSNI officers. By identifying specific areas of psychological risk in police work, we hope to increase understanding of the difficulties officers face as a result of their work and move towards an improved model of psychological duty of care to all officers at the PSNI. The results of this study will be used to develop recommendations towards a trauma-risk management strategy to be implemented by the PSNI.

This information leaflet is specific to the final stage of this study, focus group discussions. The purpose of the focus groups is to develop user-informed recommendations towards the trauma-risk management strategy that will be provided to the PSNI.

What we would like you to do
We would like to request your participation in a focus group discussion to discuss, from your perspective, the best approach to addressing the mental health of officers. We will discuss various areas of stress from the PSNI, both organizationally and operationally, in order to develop user-based recommendations towards a trauma-risk management strategy. The purpose of the focus group is to discuss the feasibility of a trauma-risk management strategy and to ensure that the recommendations put forward to the PSNI represent the needs of officers. It would be beneficial if you could please review the one-page brief on the study findings and suggested recommendations that has been provided to you prior to the focus group discussion.

The focus group will include members of the Senior Management Team. It will last approximately 45 minutes and will take place virtually via Skype.

**Risks and Discomforts**

Due to the nature of this study, some participants may find it difficult to discuss the various types of stress and trauma that they have encountered. You will be provided information about support services to refer to if you feel distressed during or after the interview.

**Potential Benefits**

Whilst there are no immediate advantages to those participating in the interviews for this study, it is hoped that the results of this research will improve the PSNI’s approach to psychological well-being. Recommendations towards a trauma-risk management strategy will be created and given to the PSNI upon completion of this research.

**Confidentiality**

This study is being undertaken externally of the PSNI and any information collected during the course of the study will be maintained on a confidential and anonymous basis. Access to the data will be restricted solely to those conducting the study. As this survey is anonymous, your name will not be affiliated with any responses you give.

With your permission the focus group will be recorded and typed up as a written transcript. You will have the opportunity to review your transcripts at your request. At this time, you may also make amendments to your transcripts as necessary. The transcripts will not contain your name or any information about you that would allow you to be identified. The only people who will have access to the transcripts are the researchers. Some of your comments may be included in a report on the study, but these will be completely anonymous.

The information gathered from this study will be kept on a secure, encrypted, and password-protected computer. The only person with access to this information is the lead researcher on the project. Upon completion of this study the information will be disposed of from the computer and the anonymized data will be securely stored at Trinity College Dublin.

**Voluntary Participation and the Right to Discontinue Participation without Penalty**
All participation in the focus group is voluntary and it is up to you to decide whether or not to take part. If you do decide to take part you will be asked to give verbal consent prior to the start of the focus group. You can withdraw from the focus group at any time without giving a reason and without it affecting you in anyway.

Results of the study

The results of this study will be written up and form the basis of my PhD thesis. Also, the overall findings of the study may be published in a scientific journal, but these will not mention you in any way. A report will be written for the PSNI and will include recommendations towards a trauma-risk management strategy.

If you would like to receive information about the results of the study, please let us know, and we will forward a summary of the findings to you at the end of the study.

Termination of Participation by the Investigator:

An investigator may terminate a subject's participation in a research study in order to protect a participant from excessive risk or to protect the integrity of the data being collected. If termination by the investigator does occur, an explanation of the reasons for the termination will be given to the participant.

Permissions: The PSNI has given permission for this study to take place in their organisation. The research team has also obtained ethical approval from the HPM-CGH Research Ethics Committee at Trinity College Dublin to and from the ethics committee at Ulster University.

Important Contact Details: Should you have any questions prior to, during or after the research, or at any point after participating you are experiencing any difficulties (socially, mentally) as a result of your participation please contact:

Contacts for Additional Information

Larissa Sherwood
Doctoral Researcher
Trinity College Dublin
Centre for Global Health
E: sherwola@tcd.ie
T: 07949 615215

Dr Frederique Vallieres
Assistant Professor
Trinity College Dublin
Centre for Global Health
E: fvallier@tcd.ie
T: 00 353 1 896 2130
Appendix E

Focus Groups Follow Up Document

Thank you for taking the time to provide additional feedback for the questions we were unable to cover in the last meeting. If you could please complete this form and email back to myself at sherwola@tcd.ie by Monday, 29 June 2020.

Please fill in any comments you may have to each of the questions below:

1. If there are any further suggestions of comments on any of the following recommendations please add them below each recommendation:
   a. Expand the remit of OHW to include mental health risk management strategies and prevention/mitigation protocols
      COMMENTS:
   b. Annual Psychological Screening of the entire service
      New-recruit screening for individual risk factors (including: coping strategies, personality, and history of trauma exposure)
      COMMENTS:
   c. Implementation of training to develop positive coping strategies and emotional stability – for both existing staff and new recruits
      COMMENTS:
   d. Review of the demand placed on officers and staff, in particular it is recommended to increase staff numbers to relieve workload
      COMMENTS:
   e. Implement exercises / trainings to increase organizational support, both between peers and management, and reduce mental health stigma
      COMMENTS:
   f. Review PSNI procedures around potentially stressful situations for officers and staff, such as: internal investigations, ombudsman investigations, industrial tribunals, suspensions, injury half-pay & absence management
      COMMENTS:

2. Do you have any additional recommendations that should be made based on the findings from this study?
   COMMENTS:

3. Prioritisation exercise:
   a. which of the recommendations do you feel is most important?
      COMMENTS:
b. Which do you feel is most feasible to implement?
   COMMENTS:

c. Please rank/order the recommendations above (a - f) according to both their necessity and feasibility, i.e. in what order would you suggest the PSNI could or should implement these recommendations?
   COMMENTS:

4. Generally, what challenges do you anticipate with the implementation of these recommendations?
   COMMENTS:

5. Do you have any further comments or concerns regarding the development of the risk management strategy?
   COMMENTS:
Appendix F

Focus Group Discussion Guide

Thanks everyone… go through and just give consent for an audio recordings.

1. Review recommendations and discuss any amendments

- Expand the remit of OHW to include mental health risk management strategies and prevention/mitigation protocols

- Annual Psychological Screening of the entire service
  - Identified high risk groups biannual
  - Longitudinal data collection
  - Tailored recommendations for individual units based on evidence
  - Evidence of mental health change as a result of implemented strategies

- New-recruit screening for individual risk factors highlighted by the study
  - Coping strategies, personality, history of trauma exposure

- Implementation of training to develop positive coping strategies and emotional stability
  - Recommended at initial trainings for new recruits and for current personnel

- Review of the demand placed on officers and staff
  - Increase staff numbers to relieve workload

- Implement exercises and trainings to increase organizational support, both between peers and management, and reduce mental health stigma

- Review PSNI procedures around potentially stressful situations for officers and staff
  Such as: internal investigations, ombudsman investigations, industrial tribunals, suspensions, injury half-pay & absence management

2. Any additional recommendations that should be made based on the findings from this study?

3. Prioritisation exercise:
   - which of the recommendations do you feel is most important?
   - Which do you feel is most feasible to implement?
   - Now, can we rank / order them according to necessity and feasibility – thinking along the lines of what order they can be implemented in PSNI

4. Any challenges you can see in the implementation of these recommendations?

5. Any further comments or concerns regarding the development of the risk management strategy?
Appendix G

Ethical Approvals

Larissa Sherwood
47 Cairndore Park
Newtownards
BT23 8RH

28 February 2018

Re: Identifying Context-Specific Risk for Discrete Trauma Exposed PSNI Officer Populations

Application 05/2018/02

Dear Larissa,

Thank you for your submission of the above proposal to the HPM/CGH REC.

The REC has given ethical approval to the proposed study.

Yours sincerely,

Charles Normand
Chair of the HPM/CGH REC
Prof J Murphy
Ulster University
School of Psychology
Magee Campus

01 June 2018

NC/EB

Dear Professor Murphy

Research Ethics Committee Application Number: REC/18/0047

Study Title: Identifying Context-Specific Risk for Discrete Trauma Exposed PSNI Officer Populations

Student: Larissa Sherwood

With reference to the recent correspondence, I can confirm that Ulster University accepts the decision of the Research Ethics Committee at Trinity College Dublin (reference 05/2018/02 HPM/CGH REC) and is content to allow the research to proceed provided there are no changes to the protocol.

Further details of the University’s policy along with guidance notes, procedures, terms of reference and forms are available on the Ulster University Portal.

If you need any further information or clarification of any points, please do not hesitate to contact me.

Yours sincerely

Nick Curry
Head of Research Governance
028 9036 6629
n.curry@ulster.ac.uk
## Appendix H
### Systematic Literature Review Article Overview

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<td>USA</td>
</tr>
</tbody>
</table>

<sup>Note:</sup> D = Depression. A = Anxiety. PTSD = Posttraumatic Stress Disorder. BO = Burnout.
<sup>1</sup>Personal risk factor measure  
<sup>2</sup>Organisational risk factor measure  
<sup>3</sup>Operational risk factor measure
Appendix I

Recommendations for a Risk Management Strategy

Preface for Risk Management Strategy

Six key recommendations for the PSNI were developed as a result of interviews with a range of PSNI officers and staff, an organisation-wide survey and a focus group discussion with the OHW Senior Management Team. The interviews provided knowledge on officers and staff experiences with the organisation and highlighted the challenges and benefits of working for the PSNI. The PSNI Stress and Trauma Survey identified rates of clinical cut-off for anxiety, depression, PTSD and Complex PTSD across the service. This survey also highlighted the various individual, organisational and operational risk and protective factors of PSNI officers and staff. To enhance the recommendations created from the results of the survey and to increase the feasibility of uptake, a focus group was conducted with the Senior Management Team within OHW. The focus group provided essential, first-hand knowledge and information to aid in the further development of the recommendations for a risk management strategy. Throughout the discussion new information was presented and critical areas of consideration were highlighted. As a result, various amendments and specifications have been developed for inclusion in the final risk management strategy recommendations. In combination, the crucial points of psychological risk experienced by PSNI personnel and the practical steps required to implement the recommendations to mitigate these risks have been more clearly developed and will allow for the organisation to move more swiftly to act on these recommendations.
Key findings from PSNI Stress and Trauma Survey

Rates of personnel meeting clinical cut-off:

- 30.9% anxiety
- 33.3% depression
- 22.1% PTSD (9.8% PTSD / 12.3% CPTSD)

Highest rates by branch

- District Policing has the highest rates of anxiety and depression
- Legacy and Justice has highest rates of PTSD (participants in this branch were largely made up of Scientific Support Staff)

Risk factors:

- Individual – emotional instability, avoidance coping, introversion, personal trauma
- Organisational – high demand, mental health stigma, PSNI-related stress, lack of understand of role, lack of peer support, negative relationships at work
- Operational – increased exposure to different types of critical incidents

Feelings towards MHS and accessing support:

- 27% of personnel who have taken sick leave told their line manager it was due to physical illness in order to get leave for mental health reasons
- 50% of participants have used MHS
- 35% of respondents have spoken to a mental health professional privately about work-related stress or mental health problems
- 78% feel counselling support should be increased for their teams
PSNI Risk Management Strategy Recommendations

**Recommendation 1: annual psychological screening of the service**

*Objectives:*

- Provide a continued evidence base of mental health statistics and risks
- Identify high risk groups
- Tailor intervention strategies for individual groups based on their unique risks
- Longitudinal data collection to track the mental health improvements of the service
- Provides evidence of mental health changes as a result of implementing strategies through a comparative analysis – the ability to identify which strategies have the most positive impacts on personnel and monitor these impacts

*Practical Considerations:*

- Implementation of this strategy could be conducted in phases, starting with those identified by the PSNI Stress and Trauma Survey as most high risk
- The inclusion of a timeline for how and when each stage of this strategy will be implemented is recommended to stay on target and provide a monitoring plan – particularly if the screening is conducted in phases
- Development of a communication plan to reduce the scepticism and mistrust regarding screenings
    - Ensure that there is effective communication on the importance and purpose of the screener, particularly as it is one of the multiple steps that the organisation is taking to provide a better duty of care to all its staff and officers, given the increased risk of poor mental health in this sector
    - Reinforces that the organisation is prioritising staff well-being and that the findings of the psychological screener will be used in a positive, proactive way to protect employee mental health.
Screening is recommended within the national guidelines of policing

- A two-tier contingency plan must be considered for the resulting numbers of police officers and staff who meet clinic cut-off
  - how the organisation will be able to meet the increased demand placed on the MHS team
  - how the organisation will proceed in adjusting the operational responsibilities of individuals with a clinical diagnosis, where necessary

*Current practice and evidence:*

- Psychological screening is now common practice for many police forces around the world (Reaves, 2010)

- Oscar Kilo, the National Police Wellbeing Service for the United Kingdom, also strongly advocates and provides training for the use of psychological screening as a part of the national wellbeing strategy for risk management of police (Oscar Kilo, 2019)

- The UK College of Policing provides materials for psychological screening and highlights the importance of utilizing screening measures to ensure police well-being (College of Policing, 2017)
Recommendation 2: new-recruit individual risk screening

Objectives:

- Screen new recruits for individual factors that increase risk of poor mental health outcomes as identified by the PSNI Stress & Trauma Survey
  o Including coping strategies, personality type, and history of trauma exposure
- Screen new recruits for pre-existing psychological disorders: anxiety, depression and PTSD/CPTSD
- Reduce the risk of new recruits developing anxiety, depression and PTSD by providing further support and resources at the start of their career

Practical considerations:

- This should be identified as new common practice for new recruits once they have been employed to the service
- Screening is conducted to ensure officer and staff can maintain good psychological wellbeing throughout their career as it is known that policing is a high-risk occupation
- Providing the necessary training and support, particularly to those who are at an increased risk, can increase resilience and protect officers and staff throughout their policing career
- It should be communicated that the screener is a positive and constructive opportunity for their career development, which will help to match their strengths to specific roles psychological screening acts as a way for the PSNI to ensure duty of care to all new officers and staff entering the service, and focuses on the individual risks identified by the survey as
- the final screening should be further developed with the MHS team to ensure that it is comprehensive of the various risks that the MHS team have identified in their clinical experience at the PSNI
- A review of 2-year mandatory placement within District Policing, identified as one of the highest risk branches, may be necessary, as well as further consideration of where individuals who identify as being at an increased risk may be better placed within the service.

**Current practice and evidence:**

- The use of pre-duty screening is already in use by various police forces around the world. For example, the Netherlands and Norway both use a personality screening tool prior to employment where high scores, particularly for neuroticism, are reason to not select a candidate for employment (Kop et al., 1999; Martinussen et al., 2007).

- A systematic review on emergency responder pre-duty screenings identified that screening for coping style and personality did positively predict subsequent adverse mental health outcomes and that previous personal traumas impacted on future mental health outcomes (Marshall, Milligan-Saville, Mitchell, Bryant, & Harvey, 2017).
Recommendation 3: implementation of training to develop positive coping strategies

Objectives:

- Provide positive coping strategy training through psychoeducation and the provision of information/resources for both new recruits (aligned with recommendation 2) and existing PSNI personnel
- Increasing positive coping skills can lead to enhanced emotional stability - the top two strongest predictors for the development of poor mental health
- Trainings will aim to increase resilience and reduce the risk of developing anxiety, depression and PTSD/CPTSD

Practical considerations:

- Currently, the PSNI use Critical Incident Stress Debriefing (CISD), known as the ‘crisis intervention’ component of Critical Incident Stress Management (CISM), whereby officers are debriefed after exposure to a potentially traumatic incident. While CISD has been shown to increase the use of adaptive coping strategies by police personnel, it is a programme used post-incident in an attempt to reduce the stress response (Leonard & Alison, 1999). The other six components of CISM, including pre-crisis preparation, however, are not currently being utilised within the PSNI. Pre-crisis preparation includes stress management education, crisis mitigation training, and stress resistance training (Everly, Flannery, & Mitchell, 2000). Therefore, an expansion of the current CISM model used at PSNI could include a pre-exposure training that focuses on culminating adaptive coping skills, while reducing avoidance coping and teaching police how to use their coping skills to effectively navigate the stressors brought on by police work.
There is an opportunity to tailor coping trainings to specific units based on the unique operational stress and traumatic exposures they encounter.

Trainings may be provided online or in person, with access to all resources on an ongoing basis for personnel to refer back to at any point (possibility to attach a link on wellbeing hub to trainings and resources).

**Current practice and evidence:**

- Coping skills training has been found to have a positive effect on psychological outcomes in a variety of settings (McKain, 1984; Ergüner-Tekinalp & Akkök, 2004; Lumley et al., 2014), particularly in reducing symptoms of anxiety and depression.

- It has been identified that police can establish a coping style, either adaptive or maladaptive, that impacts on their occupational functioning as early during at initial recruitment trainings (Violanti, 1993), it is essential that this recommendation is implemented as a part of initial trainings at the PSNI.

- Previous research has linked a lack of emotional stability to maladaptive coping strategies, including both emotion-focused and avoidance coping strategies, within the general population and policing populations (Afshar et al., 2015; Boyes & French, 2010; Vollrath & Torgersen, 2000; Kirmeyer & Diamond, 1985). It is possible that individuals who have high levels of neuroticism have increased emotional reactivity due to the use of maladaptive coping styles (Bolger & Zuckerman, 1995).

- Programmes that aim to prevent and control stress, working to strengthen effective coping strategies is crucial component, particularly for those individuals who have maladaptive personality traits such as a lack of emotional stability. Additionally, both personality traits and coping styles could be used to determine specific training programmes to enhance a person’s ability to manage psychological distress (Afshar et al., 2015).
- CISM, which includes a component of enhancing coping skills in ‘pre-crisis preparation,’ is widely and successfully used amongst emergency first responders across the globe (Everly, Flannery, & Mitchell, 2000)
Recommendation 4: review of the demand on the service

Objectives:
- Reduce the demand on PSNI personnel through the employment of additional staff and officer or through the adjustment of workload through task-shifting

Practical considerations:
- The existing data may be used to identify units who are most heavily impacted by demand and prioritising an increase in numbers within those teams based on available financial resources
- Due to limited resourcing, there is potential for reducing demand through the introduction of flexible working hours and working from home schemes, where appropriate, as well as rotation of duties within high-demand units. A rotation of duties, also known as task-shifting, from roles that are experiencing excessive levels of demand, particularly demand that is administrative-based and time consuming, to those who have lower levels of demand could assist in alleviating the overall demand on units.
- In relation to recommendation two, the PSNI may want to prioritise the allocation of new recruits to those particular units that require additional personnel to keep up with demand, instead of requiring them to serve two years in District Policing

Current practice and evidence:
- Previous research has indicated that maintaining a bearable level of job demands leads to increased job satisfaction and reduced fatigue (Andersson et al., 2017).
- Demand Based Resourcing (introducing increased personnel based on a prioritisation as has outlined above) is common amongst police services and focuses on predicting where the highest demand within the service will be (NPCC, 2017).
Police services across the United Kingdom have experienced significant challenges as a result of austerity, with many reviewing and revising the way in which they function with fewer resources (NPCC, 2017). As a result, the National Police Chiefs’ Council (NPCC) has identified a variety of other ways in which demand can be reduced for police services that may also be considered by the PSNI as a part of this recommendation. Please refer to the Policing Vision 2025 for further strategies (NPCC, 2020).
Recommendation 5: implementation of exercises and trainings to increase organisational support between peers and management and reduce mental health stigma

Objectives:
- Reduce levels of mental health stigma across the service through psychoeducation, contact strategies (whereby people directly interact with individuals who have recovered from mental illness or watch videos of persons who have recovered from mental illness), and the normalisation of stress reactions within policing
- Increase support throughout the service between both peers and managers
- Management trainings:
  o increase managerial awareness of stress within their teams to improve their ability to support their teams
  o enhancing managers’ capacity to identify those who are at risk of poor mental health
  o managers should be trained in a way to supportively discuss their concerns with supervisees they have identified as at risk, as well as ways to seek their agreement to refer them onto MHS

Practical considerations:
- Contract strategies should be internal, whereby PSNI personnel share their experiences with other PSNI personnel
  o Individuals willing and chosen to step into this capacity should be prepared to share their experiences of poor mental health, acceptance of the illness, the way they have been able to cope, the treatment they received, and how they have been able to overcome their mental illness and achieve their goals
- Training should include information on how to enhance social networks, brings peers together to support one another, as well as clear commitment from senior management.

- The content of the training might include team-building exercises, friendly competition, the sharing of experiences (work or non-work related) that connect peers, and the use of encouraging and motivational reminders throughout the workplace.

- The concept of line managers and senior team members ‘leading by example’ to enhance organisational support is vital for the success of this recommendation, demonstrating that senior management cares about the well-being of their teams (MIND, 2013b)
  
  o This could be achieved through a range of activities such as supporting a campaign to increase well-being of PSNI personnel, the production of short videos on the PSNI’s Wellbeing Hub, and providing motivation and encouragement for employees to look after their well-being.

- It is further advised to include regular bulletins and information on the PoliceNet home page to assist in the gradual reduction of mental health stigma.
  
  o Content may include information on psychoeducation, normalizing adverse mental health reactions to police work, and encouraging PSNI personnel to support one another and reduce the stigma against officers and staff who experience poor mental health.

- An additional consequence of the implementation of this recommendation may be that there is a positive impact on demand due to the reduction in absenteeism and turnover of officers and staff (aligning with recommendation 4).
Current practice and evidence:

- Increasing perceived support within the organisation is of critical importance, with previous research finding that higher support is associated with reduced fatigue and increased satisfaction at work (Andersson et al., 2017).

- Managers should be trained to identify the warning signs and triggers of poor mental health within their teams (Edwards & Kotera, 2020).

- Having senior leaders take part in enhancing the well-being of the entire organisation will lead to better change, as colleagues often respond correspondingly with how leaders behave and act (MIND, 2013b).

- A report produced by the Society for Human Resource Management and the Society for Industrial and Organisational Psychology describes various strategies that organisations can implement to enhance the perception of support to employees (Eisenberger, Malone, & Presson, 2016). Included in their strategies is the concept of providing training to both superiors and subordinates, deemed necessary by PSNI personnel in the interviews and focus group. This strategy also includes several other important tactics that should be considered by the PSNI to enhance organisational support, including:

  1) implement the use of supportive workforce services which are discretionary;
  2) all management practices must be equitable and fair;
  3) set goals for employees which are achievable and can be rewarded proportionately;
  4) learn what type of support is needed by employees and provide tailored support;
  5) provide further support to management so they are able to foster perceived organisational support within their teams;
  6) train subordinates to be supportive;
7) enhance and promote strong, supportive social networks; and
8) provide organisational support to potential employees prior to their employment, including throughout recruitment and training

- These eight evidence-based tactics can encourage employees to feel more supported by their organisation, superiors and colleagues, resulting in enhanced psychological well-being, reduced stress, increased commitment to the organisation, better performance and a reduction in absenteeism and staff turnover (Eisenberger et al., 2016).

- Mental health stigma appears to be a challenge for many policing services and is an additional source of stress that can increase poor mental health outcomes and reduce perceived support (Barron, 2010).

- Generally, there is a lack of mental health training among police forces and further psychoeducation training is required to shift attitudes about mental health (Cummings & Jones, 2010). Psychoeducation has been proven to reduce levels of mental health stigma in a range of populations, including police personnel (Bahora, Hanafi, Chien, & Compton, 2008; Beltran, Scanlan, Hancock, & Luckett, 2007; Li et al., 2019).

- Evidence suggests that the In Our Own Voice, from the National Alliance of Mental Illness, programme, which uses psychoeducation and contact strategies, has been successful in reducing stigmatising attitudes and social avoidance when compared to control groups (Corrigan et al., 2010).
Recommendation 6: Review of Internal PSNI Procedures

Objectives:

- Reduce the levels of stress associated with internal procedures such as internal investigations, absence management and industrial tribunals
- Provide additional support to PSNI personnel and their families (where applicable) when undergoing internal procedures

Practical considerations:

- While actions are being taken within the PSNI to improve the standards of internal procedures, the results of this study, along with their associated recommendations, support the need for additional change within the organisation
- A specific focus should be placed on a review of internal investigation procedures, as previous research has identified that internal investigations were a common feature of officers who had committed suicide, with a third of officers who commit suicide being under investigation or workplace review (Barron, 2010)
- Potential ways to reduce the stress of internal procedures:
  - ensure a clear understanding among PSNI personnel of the type of action(s) that will lead to internal investigation, being the subject of disciplinary action, or being refused leave, and these should be consistently applied to all personnel in the same way
  - the PSNI should ensure that officers and staff have a coherent understanding and expectation of the policy and process of each internal procedure, such that the formal process, the timeline of procedures, and the resources available are clearly outlined in writing
  - for the internal procedures that result in disciplinary action, education-based discipline should be used, where possible
Current practice and evidence:

- It is recommended that the police forces ensure fairness and consistency in the application of internal affairs procedures (Stephens, 2011) and provide in writing a clear and decisive overview of procedures that is available to all personnel (Thurnauer, 2010).

- Developed by the Los Angeles Sherriff’s Department, education-based discipline focuses on behavioural change rather than punishment (LASD, 2011). This process gives the individual the option of voluntary remedial trainings or education and also includes a mandatory eight-hour training on understanding the influences and impacts of decision-making. However it should be considered that while there is much support for education-based discipline there is little evidence of its effectiveness due to its recent development (Stephens, 2016).