Wellbeing across occupations and in the emergency services: A mixed methods study

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Abstract

Background: Evidence indicates that emergency service work can compromise first responders' and their families' wellbeing. Traditionally, first responder wellbeing has been organisationally supported from a deficit perspective with interventions aimed at trauma prevention. Recently, emergency service organisations have been considering a holistic approach to first responder wellbeing. The new approach is based on evidence that health promotion yields benefits to wellbeing over illness prevention. However, there is limited evidence about factors associated with wellbeing in different occupational groups, including the emergency services. Therefore, this thesis aimed to explore wellbeing across different occupational contexts and determine how first responders experience wellbeing in the context of emergency service work.

Method: This study used a sequential mixed methods research design underpinned by a pragmatist philosophy. The quantitative study used secondary data from an online survey of New Zealand workers (*n* = 5,126) to determine factors associated with wellbeing across different occupational contexts. The qualitative study used semi-structured interviews involving first responders and professionals who support them (*n* = 25) to investigate how first responders experience wellbeing. Constructivist grounded theory methods were selected for the qualitative study to explain and expand upon the quantitative findings (Charmaz, 2014).

Findings: This mixed methods study revealed four key findings: (1) Wellbeing is a contextual experience, with the exception of meaning and purpose. (2) Meaning and purpose lead to wellbeing for first responders via a calling enactment. (3) Callings are difficult to achieve. (4) First responders need specific tools and skills to achieve a sense of calling. The qualitative study resulted in the construction of the *heart of wellbeing* theory, which for the first time contextualises wellbeing in the emergency services.

Conclusion: The current study found that the experience of meaning and purpose is central to workers' wellbeing. The data indicate that first responders experience meaning and purpose via a sense of calling. Calling enactment is difficult in the emergency services predominantly due to organisational factors, such as conflicting agendas. This research program identified that emergency service organisations need to think beyond workplace content, such as operational stress and trauma, when protecting first responder wellbeing. The evidence collected in this study indicates that there needs to be a greater emphasis on addressing first responder wellbeing via workplace context. Wellbeing interventions may be more effective if they focus more on equipping first responders to deal more effectively with workplace context so that they can experience meaning and purpose more consistently. Emergency service organisations should ensure that all first responders have access to the high leverage factors that enable them to overcome the barriers that prevent them from enacting their sense of calling. The high leverage factors identified in this study were both individually and team-oriented. Individual and team wellbeing interventions are recommended based on the current study findings.

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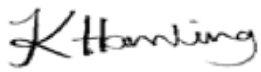
List of abbreviations

ACR	Active–constructive responding
ACT	Acceptance and commitment therapy
EBP	Evidenced-based practice
GRAMMS	Good Reporting of a Mixed Methods Study
GT	Grounded theory
HERO	Healthy and Resilient Organisation
HR	Human resource
JD–R	Job Demands–Resources
PERMA	Positive emotions, Engagement, Relationships, Meaning, Achievement
PsyCap	Psychological capital
PTG	Post-traumatic growth
PTSD	Post-traumatic stress disorder
ROI	Return on investment
SDT	Self-determination theory
SPSS	Statistical Package for the Social Sciences
SWI	Sovereign Wellbeing Index

Attestation of authorship

I hereby declare that this submission is my own work and that, to the best of my knowledge and belief, it contains no material previously published or written by another person (except where explicitly defined in the acknowledgements), nor material which to a substantial extent has been submitted for the award of any other degree or diploma of a university or other institution of higher learning.



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Co-authored publications arising from this doctoral thesis

Peer-reviewed journal publications and author contributions

1. Hamling, K., Jarden, A., & Schofield, G. (2015). Recipes for occupational wellbeing: An investigation of the associations with wellbeing in New Zealand workers. New Zealand *Journal of Human Resource Management*, *12*(2), 151–173.

   Contributions: Hamling (80%) and Jarden (15%), and Schofield (5%)
   Dr Aaron Jarden and Professor Grant Schofield contributed in the capacity of PhD supervisors.

   

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   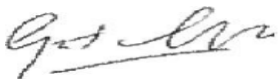

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   Signature Date

2. Hamling, K., & Jarden, A. (2016). Wellbeing and recovery in the emergency services: How do we care for those who care for us? In M. Slade, L. Oades, & A. Jarden (Eds.), *Wellbeing, recovery and mental health* (pp. 157–168). Cambridge, UK: Cambridge University Press.

   Contributions: Hamling (80%), Jarden (20%).
   Dr Aaron Jarden contributed in the capacity of PhD supervisor.

   

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1. Hamling, K., Ward, K., & Heale, D. (Submitted). Wellbeing in the emergency services: Findings from a grounded theory study. Submitted to the *Australian Journal of Psychology* on 2 May 2018, as evidenced in Appendix A (page 211).

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   Dr David Healee contributed in the capacity of PhD supervisor.

   

   07 May 2018

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   Signature Date

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AUT submission guidelines require that I acknowledge the services of a proofreader, and outline the services provided by the proofreader. I recognise and thank Academic Consulting Ltd for proofreading this thesis. No employee at Academic Consulting Ltd has any academic or professional experience relevant to my research topic. In this instance, proofreading involved checking for:

- typographical errors, such as extra spaces, double punctuation marks
- spelling, including misspelled words and correctly spelled, but inappropriate words
- punctuation, such as misplaced or absent commas, semicolons, periods etc.
- grammar
- consistency of terms, abbreviations, and capitalisation.

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3. The Human Research Ethics Committee (HREC#:16/071: October 2016)
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Chapter 1. Introduction

Thank God for the everyday heroes
For all you've done and for all you do
Thank God for the everyday heroes
It's a better world because of you.
Lines (2010)

Emergency service organisations employ everyday heroes who protect the health and safety of all members of our community. First responders, including police officers, paramedics, and firefighters, are often the first to respond when things go wrong in people's lives. They enter emergency situations to prevent disasters, restore order, and save lives. First responders encounter events that are unimaginable to people working in other occupations. They deal with trauma, death, and destruction throughout their careers, yet they also engage in work that is deeply meaningful and rewarding (Regehr & Bober, 2005).

I worked with first responders from 2000 to 2012 as a trauma psychologist in Sydney. I am aware of the impact that emergency service work has on first responders and their families. My husband was a firefighter for most of his career, and I have many friends in the emergency services. I have admired first responders' ability to tolerate and sometimes to grow from events that would leave many of us traumatised. First responders care for others, often while facing danger themselves. Managing life's demands and staying mentally well is challenging for most people; it is even more so when tasked with the responsibility of caring for others. But this is what first responders do on a daily basis. An experienced paramedic in this study noted:

> In this job, and police and fire, you have experiences like no other job. You're in people's homes at the best of times and the worst of times. In 22 years I've seen people stabbed, shot, and beaten to death. I have seen parents killed by their children, and children killed by their parents. I've seen it all. (P14)

First responders work tirelessly to care for others, but at what cost? The public expect first responders to respond quickly to emergency situations and restore order without giving much thought to what effect this has on the person behind the uniform. Recent research indicates that first responders, and their families, are being harmed from emergency service work (beyondblue, 2016a, 2016b; Cotton, Hogan, Bull, & Lynch, 2016; Varker et al., 2018). Studies show that first responders are at increased risk of cardiovascular disease, divorce, depression, anxiety, suicide, and post-traumatic stress disorder (Benedek, Fullerton, & Ursano, 2007; Chae & Boyle, 2013; Duarte et al., 2006; S. Johnson et al., 2005; Kleim & Westphal, 2011; Maguen et al., 2009; Stanley, Hom, & Joiner, 2016; Sterud, Ekeberg, & Hem, 2006; Wagner, McFee, & Martin, 2010). Duarte et al. (2006) found that first responders' children are also at increased risk of post-traumatic stress disorder. Distress and illness are associated with absence from the workplace, lowered job performance, and increased accidents and injuries (LaMontagne, Shaw, Ostry, Louie, & Keegel, 2006). First responders are at higher risk of ill health compared with other occupational groups and the general population (Berger et al., 2012; S. Johnson et al.,

2005; Stanley et al., 2016; Varker et al., 2018). Indeed, the societal repercussions of first responders becoming unwell are significant. Conversely, increased first responder wellbeing is likely to reduce negative societal repercussions.

First responders experience job demands that other occupational groups do not (Hart & Cotton, 2003; Regehr & Bober, 2005). The interplay between operational and organisational job stressors creates a highly complex working environment for first responders (Burke, 2016; Dropkin, Moline, Power, & Kim, 2015; Reynolds & Wagner, 2007; Stinchcomb, 2004). Operational stress involves primary and secondary trauma exposure (Hetherington, 2001; Regehr & Bober, 2005; Rutkow, Gable, & Links, 2011). Primary trauma exposure arises directly from a traumatic event such as accident scenes and violence (Figley, 2012). Secondary trauma exposure stems from indirect trauma such as hearing about a traumatic event occurring to somebody else (Figley, 2012). Organisational job stressors include shift work, excessive paperwork, time pressures, low levels of support, and low levels of collegiality (Brough, 2004; Burke, 2016; Collins & Gibbs, 2003; Gist & Taylor, 2008; Hall, Dollard, Tuckey, Winefield, & Thompson, 2010; Hart & Cotton, 2003; Reynolds & Wagner, 2007; Waters & Ussery, 2007). Halpern, Gurevich, Schwartz, and Brazeau (2009) and Cotton et al. (2016) reported that the male-dominated work culture, and stigma of appearing weak, contribute to organisational job stress for first responders. In addition, the paramilitary nature of the emergency service organisation also adds to stress for this workforce.

Historically, emergency service organisations have had a paramilitary structure (Biggs & Naimi, 2012; Brunsden, Hill, & Maguire, 2012; Grant & Hoover, 1994; King, 2003). Grant and Hoover (1994) drew attention to the similarities between the emergency services and the military. They stated that in both organisations promotion is associated with a change in rank, a chain of command exists, and just as military organisations are continually preparing for war, emergency service organisations are continuously preparing for emergency situations. Biggs and Naimi (2012) reported that paramilitary organisations consist of multiple ascending levels of authority, with the power primarily contained at the top of the organisation. The paramilitary structure has reportedly contributed to a bullying culture in some emergency service organisations (Biggs & Naimi, 2012; Brunetto, Xerri, Shacklock, Farr-Wharton, & Farr-Wharton, 2016). Evidence suggests that the practices associated with a traditional paramilitary structure, such as a command and control style of leadership, continue to exist in many emergency service organisations and negatively affect first responder wellbeing (Brough, 2005; Brunetto et al., 2016; Collins & Gibbs, 2003; Cotton et al., 2016; Grant & Hoover, 1994; Reynolds & Wagner, 2007). Bullying in emergency services organisations has been reported elsewhere (Cotton et al., 2016; Larsen, Aisbett, & Silk, 2016).

Industry, government, media, and first responders themselves have recognised that first responder wellbeing requires urgent attention (Black Dog Institute, 2016; Cotton et al., 2016; Western Australia Parliament, 2012). For example, the Victorian Police Commissioner launched inquiries into police deaths and depression following police suicides (Cotton et al., 2016). Varker

et al. (2018) reported that suicidal ideation is higher among first responders than among military personnel. In 2017 the New South Wales Government invested $48 million in the mental health and wellbeing of NSW paramedics (New South Wales Government, 2017). The ill effects of emergency service work are unequivocal and first responder wellbeing requires urgent attention.

Despite recognition that first responder wellbeing is problematic, there is limited evidence about wellbeing in the emergency services. A recent systematic review by Varker et al. (2018) revealed the lack of knowledge about first responder wellbeing. Varker et al. (2018) concluded that, "the sum of research to date does not permit a comprehensive understanding of the mental health and wellbeing of emergency services personnel … significantly less is known about the mental health and wellbeing of emergency services personnel compared to other trauma-exposed populations" (p. 146). Furthermore, other scholars argue that little evidence exists about what wellbeing represents to other occupational groups (Hamling, Jarden, & Schofield, 2015; Lundh & Rydstedt, 2016; Murray, Murray, & Donnelly, 2016). In this context, I argue that there is an urgent need for more research in the area of first responder and occupational wellbeing.

In the current study, I explore wellbeing from a health promotion perspective. The different approaches to wellbeing are explained later in this chapter and justification for adopting a health promotion paradigm is explained. In this study I first conducted a narrative literature review to explore how wellbeing is conceptualised in emergency service organisations. The narrative literature review is presented as a book chapter in which I argue that first responder wellbeing should be approached from a more holistic, rather than a deficit, perspective. In chapter two I present evidence that wellbeing is a unique experience, which changes according to a persons' context. This research study includes a quantitative study with a New Zealand cohort to investigate if occupational context changes how people experience wellbeing. I also perform a grounded theory study with Australian and New Zealand first responders to understand what wellbeing represents to a first responder cohort and how first responders enact wellbeing in the emergency services. This research adds new knowledge to the occupational wellbeing literature, and is significant for first responders, their families, and society at large. This study is the first to explore first responders' wellbeing, from their perspective. This research contributes a new theory about how first responders experience wellbeing, as opposed to ill-being. The knowledge generated in this thesis can be used to protect first responders' wellbeing and promote first responders' enjoyment of their job. A new model is recommended for first responder wellbeing.

The study findings will benefit emergency service organisations. Wellbeing is associated with reduced absenteeism, workplace accidents, increased performance and productivity, enhanced creativity and engagement, and improved retention (Hamling & Jarden, 2016; Hart, Cotton, & Scollay, 2015). A return on investment (ROI) analysis by beyondblue and PwC (2014) recognised the positive benefits of employee wellbeing. The ROI demonstrated that for each

dollar spent on staff wellbeing, an average of AUD$2.30 return in benefits is gained (beyondblue & PwC, 2014). Identifying new evidence about maintaining wellbeing for first responders will inform wellbeing policy and practices in the emergency services. The knowledge produced by this thesis will support emergency service organisations to meet their health and safety legislative requirements under the Work Health and Safety Act 2011 (Australia) and the Health and Safety at Work Act 2015 (New Zealand).

Consequently, this thesis presents a sequential mixed methods study that provides empirical data about what factors are related to wellbeing for people working in different occupational groups, and a conceptual framework that explains the why, what, and how of first responder wellbeing. To provide context for this work, the following sections of this chapter elaborate on the concept of wellbeing and how emergency service organisations have approached first responder wellbeing in the past. Thereafter, the structure of the thesis is outlined.

1.1 Research aim, design, and purpose

This thesis uses two separate, yet interdependent, studies to answer the research question "What do people experience as wellbeing in different occupational contexts, and how do first responders experience wellbeing in the context of the emergency services?" The study is underpinned by a pragmatist paradigm and uses a sequential mixed methods design to address the research aims and objectives (Teddlie & Tashakkori, 2009). The overall purpose of the thesis was twofold: firstly, to produce new knowledge to help first responders better manage the stress related to emergency service work and flourish in their work and lives, and secondly, to generate knowledge for people who support first responders, such as policymakers, psychologists, and human resource practitioners, so that they can protect first responder wellbeing.

The specific objectives of the study were to:

1. Provide background information that illustrates the complexities of human wellbeing.
2. Conduct a narrative literature review to explore the functionality of wellbeing promotion being incorporated into a deficit work culture such as the emergency services.
3. Select a research methodology that enables the use of a variety of data sources and analyses to understand the complex nature of wellbeing.
4. Survey different occupational groups to identify what factors are associated with wellbeing for people working in different occupational contexts.
5. Interview first responders about what wellbeing means to them and how they achieve wellbeing.
6. Gather and analyse qualitative data concurrently to form a theory about first responder wellbeing.
7. Provide recommendations based on information produced by this study to inform emergency services organisations' policy on first responders' wellbeing, and for future research.

1.2 Background context

Wellbeing is a broad concept without a universally accepted definition (Aldrich, 2011; Hone, Jarden, Schofield, & Duncan, 2014; Lomas & Ivtzan, 2016). This section briefly reviews two different conceptualisations of wellbeing to provide context for the current study. The following chapter considers wellbeing more thoroughly and draws attention to current debates within the literature about how to define and research wellbeing (Hefferon, Ashfield, Waters, & Synard, 2017; Waterman, 2013).

1.2.1 Different approaches to understanding wellbeing

Historically, scholars have approached wellbeing from a deficit or health promotion perspective (Keyes, 2002; Provencher & Keyes, 2011; Seligman, 2012). From a deficit perspective, wellbeing is thought to arise from the absence of ill health or injury (Herrman, Saxena, Moodie, & Walker, 2005). Wellbeing research from a deficit perspective seeks to understand and prevent what causes ill health (Gist & Taylor, 2008). A deficit approach to wellbeing research has little to no emphasis on developing positive psychological and physical wellbeing (Mittelmark & Bauer, 2017). In contrast, a health promotion approach to wellbeing research explores what factors contribute to health as a way of promoting wellbeing and preventing ill-being.

The concept of health promotion came from Antonovsky (1979), who countered the notion that stressors always have pathogenic consequences. Antonovsky (1979) stated that chaos, disease, and stress are part of being human and that people can survive, and survive well, for long periods of time with exposure to stress. Consequently, Antonovsky (1979) argued, the focus should not be on risk factors and stress when considering wellbeing but on coping and salutary factors. Overwhelmingly, research indicates that people perform better in most of life's key domains when they increase their wellbeing, comparative to only decreasing their ill health (Howell, Kern, & Lyubomirsky, 2007; Keyes, 2002, 2007; Provencher & Keyes, 2011; Sin & Lyubomirsky, 2009; Slade, Oades, & Jarden, 2017). Wellbeing is considered from a health promotion perspective in this thesis.

People who adopt a health promotion approach to life continually move towards healthier levels of functioning, such as resilience, strength, and wellbeing (Eriksson & Lindström, 2006; Griffiths, 2010; Herman, Saxena, & Moodie, 2005; Mittelmark & Bauer, 2017). In contrast, people who adopt an illness prevention approach to life focus less on developing positive psychological and physical health and more on eliminating states of ill-being (Mittelmark & Bauer, 2017). Health promotion results in positive outcomes such as improved cardiovascular health, quality of life, and subjective wellbeing (Eriksson & Lindström, 2006; Mittelmark & Bauer, 2017). Wellbeing is also linked with adaptive coping, faster cardiovascular recovery following exposure to trauma, and a lower level of the stress hormone cortisol during stressful experiences (Boehm & Kubzansky, 2012; De Neve, Diener, Tay, & Xuereb, 2013; Howell, Kern, & Lyubomirsky, 2007; Lyubomirsky, King, & Diener, 2005; Slade et al., 2017; Tugade & Fredrickson, 2004).

1.2.2 Wellbeing in the emergency services

Traditionally, first responder wellbeing has been approached from a deficit perspective (Hamling & Jarden, 2016; Hart & Cotton, 2003). Research has concentrated on understanding first responders' resilience to adversity, and how to promote their recovery and growth following traumatic operational job stress (Devilly, Gist & Cotton, 2006; Gist & Taylor, 2008; Hamling & Jarden, 2016; LaMontagne et al., 2016; Shakespeare-Finch, 2007). Wellbeing initiatives have been influenced by this research, evidenced by a focus on preventing post-traumatic stress, depression, and anxiety (Hamling & Jarden, 2016). Wellbeing initiatives offered by emergency service organisations include employee assistance programs, peer support, critical incident stress management, psychological first aid, and resilience training (Balmer, Pooley, & Cohen, 2014; Hamling & Jarden, 2016; Shakespeare-Finch, 2007). These interventions continue to be dominated by a deficit approach to wellbeing as they continue to focus primarily on preventing and treating ill health (Hamling & Jarden, 2016).

To date, few wellbeing interventions have focused on promoting first responder wellbeing as an independent endeavour to preventing ill-being (Hamling & Jarden, 2016; Varker et al., 2018). Wellbeing research on first responders continues to focus on preventing ill-being (LaMontagne et al., 2016; Varker et al., 2018). Further, few studies have focused on developing first responders' resilience to organisational stress (beyondblue, 2016a; LaMontagne et al., 2016). An exception is the Promoting Resilient Officers program in the Queensland Ambulance Service in Australia, which addresses both operational and organisational job stress in a wellbeing intervention (Shochet et al., 2011). The program is evidence based, and despite reported success, it is not the norm across the industry (Shochet et al., 2011).

An emphasis on trauma resilience in the emergency services is no longer plausible given the substantial evidence that operational trauma is not the only source of stress and ill health for first responders. Indeed, evidence indicates that organisational stress is a better predictor of first responder distress (Alexander & Klein, 2001; Armstrong, Shakespeare-Finch, & Shochet, 2016; Dropkin et al., 2015; Gershon, Barocas, Canton, Li, & Vlahov, 2008; Hall et al., 2010; Maguen et al., 2009; Tuckey & Hayward, 2011). If we accept that promoting wellbeing yields additional benefits to those gained from illness prevention, then it is necessary to understand the key factors associated with wellbeing to design effective wellbeing interventions in all organisations, including the emergency services.

1.3 Overview of the thesis

This thesis follows an article format instead of the traditional monograph. Accordingly, I include a preface and postscript for each chapter that contain more detail about the thesis progression and research questions. The thesis consists of nine chapters, two of which contain published manuscripts and one that has been submitted for publication. Effort has been made to limit the repetition inherent in a thesis with publication, but it is acknowledged that there is occasional

repetition of content in chapters five, six, and seven of this thesis. Figure 1 provides an overview of how the research progressed.

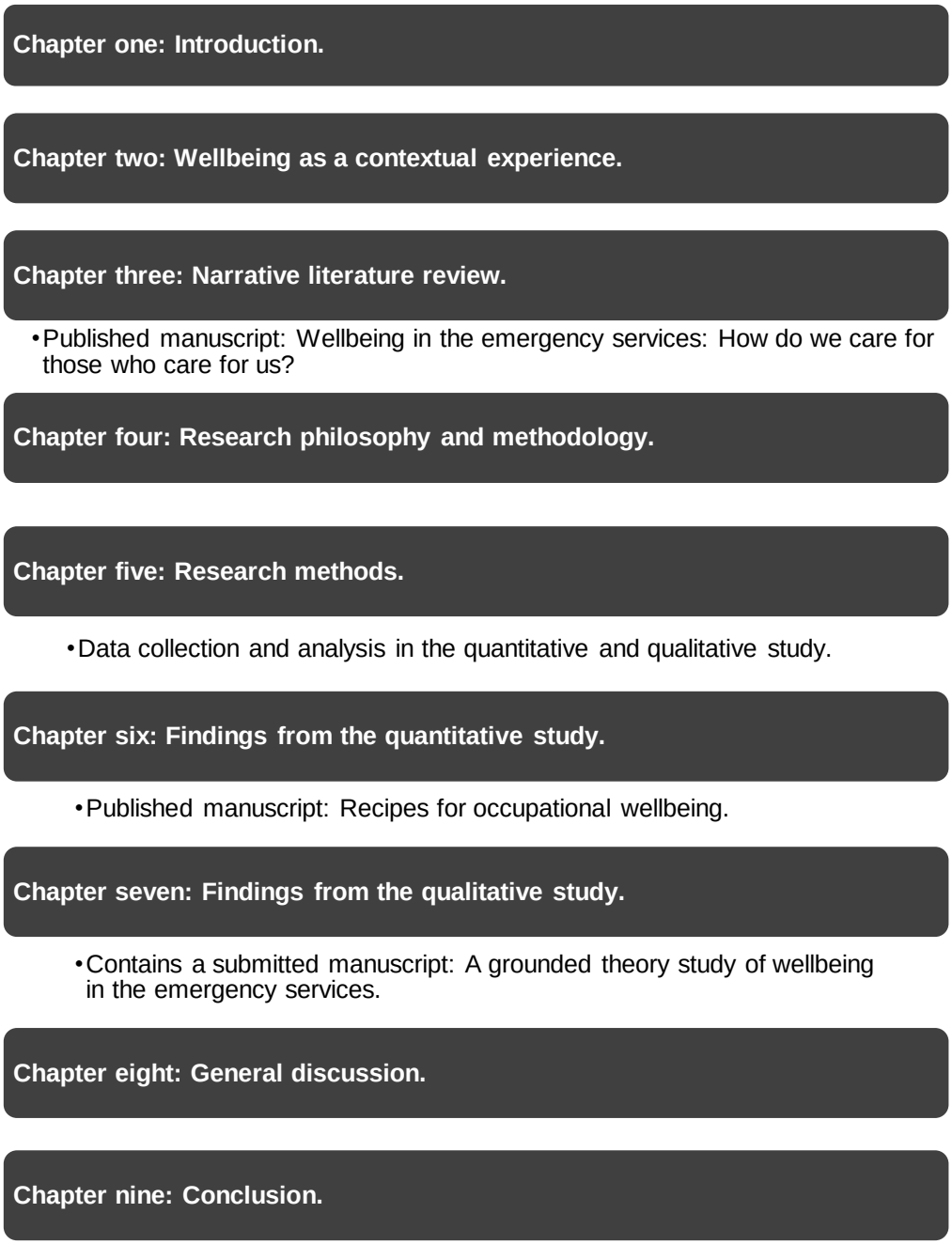


Figure 1. Chapter outline and individual studies that make up this thesis

Chapter one introduces evidence that first responders are at increased risk of ill health. The chapter justifies the need for more research into first responder wellbeing. Chapter one describes the aim, purpose, and design of this research project. The second chapter of this thesis develops the rationale for the study and provides evidence that wellbeing is a contextual experience. Chapter three investigates wellbeing in the context of the emergency services. In chapter three, I include a narrative literature review, published in the book *Wellbeing, Recovery, and Mental Health* (Slade, Oades, & Jarden, 2017).

Chapter four outlines the pragmatist philosophy that underpins this mixed methods study. In chapter four, I explore John Dewey's (1922, 1938) version of pragmatism. I describe why Deweyan pragmatism is suited to wellbeing research, mixed methods research, and my worldview. Chapter five outlines the research methods, and chapters six and seven present the findings of this mixed methods study. Chapter six includes an article that was published in the *New Zealand Journal of Human Resources Management* in 2015. Chapter seven includes an article that was submitted for publication to the *Australian Journal of Psychology* in May 2018.

Chapter eight presents a discussion based on the findings in chapters six and seven and incorporates existing theories to strengthen the conclusions of this study. The thesis concludes in chapter nine by outlining strengths and limitations of the research and provides recommendations for policy and practice.

Chapter 2. Wellbeing as a contextual experience

Chapter one introduced the concept of wellbeing from a deficit and promotion perspective. The current chapter aims to extend beyond this conceptualisation of wellbeing to further set the scene for this research. Wellbeing research has proliferated in the past decade (Rusk & Waters, 2013). Wellbeing studies have emerged as an interdisciplinary subject from fields including economics, management, medicine, sociology, and psychology (Davies, 2015; Layard, 2011; Rusk & Waters, 2013; Searle, 2008). Definitions and models of wellbeing vary considerably within the wellbeing literature depending on factors such as the researcher's worldview and the methodology used to research wellbeing (Johnson, 2011; Waterman, 2013). In this thesis, wellbeing is approached from a psychological perspective. The current chapter provides some background context about wellbeing research in the positive psychology field to provide further support for this study.

In this chapter I start by briefly introducing the discipline of positive psychology. Next, I consider the role of context on how wellbeing is experienced and I draw attention to the lack of context in positive psychology and occupational wellbeing research. The chapter concludes by examining the unique context of the emergency services.

2.1 Wellbeing in the positive psychology field

As described in chapter one, historically industry and academia have approached wellbeing from a deficit perspective. Wellbeing was thought to arise in the absence of ill-being (Seligman, 2012). Scholars in the field of positive psychology have challenged the deficit approach to wellbeing by studying "positive experiences and positive individual traits, and the institutions that facilitate their development" (Duckworth, Steen, & Seligman, 2005, p. 630). Positive psychology approaches wellbeing in a similar way to the health promotion approach described in chapter one. Positive psychology conceives wellbeing to be more than the absence of illness (Joseph & Sagy, 2016). Positive psychology interventions aim to promote wellbeing (flourishing) in all populations (Seligman & Csikszentmihalyi, 2000). One prominent model of wellbeing in the positive psychology field is PERMA, an acronym for the five essential and universal building blocks of wellbeing and happiness (Seligman, 2012). PERMA stands for Positive emotions, Engagement, Relationships, Meaning, Achievement (Seligman, 2012).

Positive psychology wellbeing models are reportedly applicable to everyone as they are objective and value neutral, and address universal human needs (Deci & Ryan, 2008; Park, Peterson, & Seligman, 2004; Seligman, 2012). Seligman and Csikszentmihalyi (2000) argued that cultural, ethnic, political, and gender bias can be avoided by focusing on the strengths that all cultures value positively. They stated that "our common humanity is strong enough to suggest psychological goals to strive for that cut across social divides" (Seligman & Csikszentmihalyi, 2000, p. 90). Consequently, wellbeing initiatives are designed and implemented based on the belief that people experience basic wellbeing needs in the same way across different populations (Davies, 2015). For example, the positive psychology field has

produced an empirically validated classification of universal human values and strengths (Peterson & Seligman, 2004; Seligman, 2012). Seligman, Steen, Park, and Peterson (2005) reported that identifying and using key character strengths can promote wellbeing irrespective of context. However, scholars in other disciplines argue that wellbeing is a contextual experience that should not be researched in a value-neutral way.

The next section of this chapter considers how the concepts, beliefs, values, and experiences that are related to wellbeing vary according to context. Evidence presented below positions wellbeing as a contextual experience. The remainder of this chapter draws on existing evidence to argue that context must be considered when researching wellbeing.

2.2 Wellbeing as a contextual experience

Despite positive psychology researchers' claims that wellbeing models are value neutral and context free, other scholars strongly disagree (Christopher, 1999; Christopher & Hickinbottom, 2008; Diener & Suh, 2000; Ivtzan, Lomas, Hefferon, & Worth, 2015; Lomas, 2015; Taylor, 2001; Ungar et al., 2007; Wong & Roy, 2017). Such opposition is based on research showing that context changes how people experience and conceptualise wellbeing (Christopher & Hickinbottom, 2008; Ciarrochi et al., 2016; Diener & Suh, 2000; Lomas & Ivtzan, 2016; Uchida & Ogihara, 2012). According to Hayes, Strosahl, and Wilson (2011), context refers to "situational and historical events that exert an organizing influence on behavior" (p. 33). Evidence indicates that socio-contextual factors exert an influence on people's wellbeing (Ferguson, 2007). Factors such as power, social justice, income, and equality change how people experience wellbeing (Becker & Marecek, 2008; Ferguson, 2007; Marmot, 2004; McDonald & O'Callaghan, 2008; R. G. Wilkinson, 2005). For example, in a classic study of depression, Brown and Harris (2012) determined that working-class women were four times more likely to experience depression than middle-class women. The difference was not explicitly related to income but to all aspects of the lives of these women, including self-esteem, employment experience, and social supports. Other studies have reinforced the detrimental impact of inequality on many aspects of wellbeing (Marmot, 2004; R. G. Wilkinson, 2005). Recently, the World Happiness Report also outlined how a country's government systems and cultural values change how people experience wellbeing (Helliwell, Layard, & Sachs, 2018).

Diener and Suh (2000) argued that phenomena related to wellbeing may not be universal but subject to "cultural relativism" (p. 3). Cultural relativism refers to the belief that cultural values and practices acquire their meaning from within a specific social context (Johnson, 2011). According to Diener and Suh, societies have different sets of values, and people are therefore likely to consider different criteria relevant when judging success. For example, the human value of self-reliance is equally important to people in Taiwan as it is to people in the United States (Christopher & Hickinbottom, 2008). However, because of differences between the cultures the meaning of self-reliance varies dramatically. In the United States, self-reliance is valued because it is a marker of autonomy, maturity, and having developed appropriately as an individual. In contrast, Taiwanese people value self-reliance because it enables them to avoid

being a burden on others (Christopher & Hickinbottom, 2008). Therefore, self-reliance is important to each culture but for different reasons.

According to Fawley (2015), it is dangerous to promote a universal model of happiness and wellbeing as doing so can lead to iatrogenic outcomes. Seemingly positive human qualities such as optimism, forgiveness, and resilience can be harmful in certain circumstances (Frawley, 2015; Helliwell & Putnam, 2004). For example, in some contexts optimism has been linked to an underappreciation of risk, and to subsequent health-risk behaviours, such as smoking (Weinstein, Marcus, & Moser, 2005). Forgiveness sometimes leads people to accept situations that may be bad for their wellbeing, such as staying in abusive relationships (McNulty & Fincham, 2012). Friedman and Robbins (2012) argue that Hitler was highly resilient but driven towards harmful actions rather than benevolent ones. Resilience in this example was a liability rather than an asset. Friedman and Robbins (2012) reasoned that human experiences cannot be evaluated independently of the context in which they take place, as context changes the nature of the experience. Nobel prize winner Daniel Kahneman (2011) has spent his career researching human experiences. His research illustrates that human experiences are profoundly contextual and that people experience wellbeing relative to their previous, current, and future contexts (Kahneman, 2011).

Despite evidence that context changes how people experience wellbeing, limited knowledge exists about how people in different occupational contexts, including first responders, experience wellbeing (Hamling, Jarden, & Schofield, 2015). Positive psychology wellbeing models and interventions are used to promote wellbeing irrespective of context (Davies, 2015; Frawley, 2015; Friedman & Robbins, 2012; Hone, Jarden, & Schofield, 2015; Layard, 2011; Taylor, 2001; Uchida & Ogihara, 2012). The next section considers the relevance of context in the field of occupational wellbeing.

2.3 Context in occupational wellbeing research

To date, no studies have been identified that differentiate how workers experience wellbeing in different occupational groups (Hamling et al., 2015; Murray et al., 2016). Occupational wellbeing researchers tend to consider universal factors that promote workers' wellbeing, such as autonomy, work–life balance, authentic leadership, and job crafting (Hahn, Binnewies, Sonnentag, & Mojza, 2011; Kelly & Cameron, 2017; Slemp, Kern, & Vella-Brodrick, 2015). Evidence about the specific factors that promote workers' wellbeing in different occupations is limited (Hamling et al., 2015; Lundh & Rydstedt, 2016; Murray et al., 2016). The wellbeing literature is replete with universal wellbeing models, such as the Job Demands–Resources model (Bakker & Demerouti, 2007), but fewer contextualised models of wellbeing exist (Lundh & Rydstedt, 2016). Few wellbeing models and interventions have been designed, validated, and implemented for a particular occupational group (Hamling et al., 2015; Murray et al., 2016). Wellbeing models and interventions designed for one cohort have been used to promote resilience and wellbeing in separate populations (Ciarrochi et al., 2016; Fredrickson, Cohn, Coffey, Pek, & Finkel, 2008; Friedman & Robbins, 2012). For example, Friedman and Robbins

(2012) demonstrated how positive psychology interventions, shown to promote wellbeing benefits in school children, were used as evidence to promote similar benefits in separate populations such as military soldiers.

Occupational wellbeing scholars agree that implementing a wellbeing initiative should begin with identifying relevant cohort factors (Maneotis & Krauss, 2015). The information should be used to inform what the wellbeing intervention should target and recognise the barriers, and enablers, to lasting change (Briner & Walshe, 2015; Maneotis & Krauss, 2015; Maneotis, Grandey, & Krauss, 2014; Maneotis & Krauss, 2015). The process is consistent with an evidence-based approach, defined by Briner, Denyer, and Rousseau (2009) as:

> [The process of] making decisions through the conscientious, explicit, and judicious use of four sources of information: practitioner expertise and judgment, evidence from the local context, a critical evaluation of the best available research evidence, and the perspectives of those people who might be affected by the decision. (p.19)

However, recent studies have identified that few occupational wellbeing initiatives are implemented and evaluated in such a way (Baumeister & Alghamdi, 2015; Briner & Walshe, 2015; Robertson, Cooper, Sarkar, & Curran, 2015).

Briner and Walshe (2015) criticised the organisational psychology field for not following the evidence-based approach that is commonly used in medicine, education, and policymaking. They state that "an evidence-based approach does not start with a solution or intervention, but, rather, it starts with a thorough analysis of the problem" (Briner & Walshe, 2015, p. 564). However, typically, solutions are offered before problems have been identified in the wider occupational wellbeing field. Wellbeing interventions shown to be effective in one population are used to promote wellbeing in unrelated populations (Ciarrochi, Atkins, Hayes, Sahdra, & Parker, 2016; Friedman & Robbins, 2012; Held, 2004; Novotney, 2009). Wellbeing interventions are delivered uniformly, irrespective of whether different populations have the same wellbeing needs (Briner & Walshe, 2015; Friedman & Robbins, 2012). There is little evidence of the specific factors that detract or add to the wellbeing of people who work in different occupations (Hamling et al., 2015). This chapter now outlines why there is a problem with delivering wellbeing interventions before the specific needs of a population have been identified.

Not understanding the whole context of a person's wellbeing before administering a wellbeing intervention is unethical according to Briner and Walshe (2015). They illustrated this with an example of a mindfulness intervention to resolve burnout in a work team. Introducing mindfulness for the staff could be unethical and ineffective when the work unit is chronically understaffed and unable to meet work demands (Briner & Walshe, 2015). Arcidiacono et al. (2017) maintained that removing context from wellbeing raises issues of power, equality, and social justice. For example, encouraging people to increase meaning in their life could be difficult if they do not have access to basic financial resources to make their dreams come true (Davies, 2015). Yet, an underlying assumption of decontextualised wellbeing interventions is that people have access to the same resources to make use of the wellbeing interventions (Arcidiacono et al., 2017; Briner & Walshe, 2015). Community psychology researchers report

that social-justice determinants of wellbeing are equally important as individual characteristics, such as resilience (Arcidiacono et al., 2017; Prilleltensky, 2012). Social-justice determinants include income distribution, access to health and education, and availability of life-fulfilling opportunities (Prilleltensky, 2012). Research shows that people have access to different resources, and therefore have different wellbeing needs (Arcidiacono et al., 2017; Briner & Walshe, 2015; Marmot, 2004).

In summary, the issues raised so far have implications for all occupational groups, including the emergency services. If context changes how people experience wellbeing, then it is important to understand the contextual factors related to occupational wellbeing. As described in chapter one, the nature of emergency service work offers a unique occupational context for first responders. The occupational context of the emergency services is further explored in the following section.

2.4 The occupational context of the emergency services

First responders share unique attributes and personal characteristics. Mitchell (1983), a firefighter himself, described first responders as having high levels of empathy, and a propensity for helping others. Mitchell (1983) said that many first responders are dedicated risk-takers who have a high need for stimulation. He described first responders as having a rescue personality. Research shows that certain types of people might be attracted to emergency services work. Salters-Pedneault, Ruef, and Orr (2010) reported that fire and police recruits scored higher on a personality profile in terms of excitement seeking, gregariousness, conscientiousness, deliberation, and dutifulness than the general population. Many first responders derive a strong identity from their work (Fannin & Dabbs, 2003; S. Lee & Olshfski, 2002). Brown, Mulhern, and Joseph (2002) reported that first responders express a need to help others and a need to be needed, which may explain why they derive a strong identity from their work.

A commonly held belief in the emergency services is that to do the job effectively a first responder has to be tough (O'Neill & Rothbard, 2015; James Thompson, 1993). Many first responders report a fear of stigma and appearing weak if they ask for support (Clohessy & Ehlers, 1999; Stephens & Long, 1999). First responders may undermine negative feelings because they compare their situation with those of less fortunate people (Regehr & Bober, 2005). For example, first responders may not feel entitled to feel traumatised by an event that happened to another person, such as the death of a loved one in a car crash. Other reasons to undermine negative feelings include a fear that they will not be able to continue in operational duties, or carry a weapon in the case of police (Regehr & Bober, 2005). Consequently, first responders can deny the need for assistance and not ask for help when they need it (Brunsden et al., 2012).

Emergency service work presents specific challenges for first responders. Chapter one described the operational and organisational stress associated with emergency service work. Organisational stress can erode first responders' resources, making them more vulnerable to

burnout and post-traumatic stress disorder (Jo et al., 2018; Tuckey & Hayward, 2011). Operational stress results in vicarious trauma for first responders, which increases the risk of developing post-traumatic stress disorder (Reynolds & Wagner, 2007). The combination of organisational and operational stress places first responders at higher risk of developing problems with their health and wellbeing (Hamling & Jarden, 2016).

The type of person who becomes a first responder, combined with the type of work that first responders do, creates a unique context for wellbeing in the emergency services. The uniqueness of this context may have implications for how first responders experience wellbeing and how their wellbeing can be protected. Likewise, other occupational groups have unique job demands and they too may experience wellbeing differently (Lundh & Rydstedt, 2016). Despite evidence that context plays a role in how people experience wellbeing, little is known about the specific factors associated with wellbeing in different occupational groups. For this reason, the lack of context in occupational wellbeing research has influenced the current study design.

2.5 Chapter summary

Chapter two has described how context changes the way people experience wellbeing. I have argued that it is necessary to understand the wellbeing needs of a population before administering a wellbeing intervention. The next chapter in this thesis explores and develops the concept of wellbeing in the context of the emergency services.

Chapter 3. Narrative literature review

This chapter provides a narrative review of literature that was conducted at the beginning of this research program. In this chapter I explain what a narrative literature review is, and justify the use of this type of analysis of the literature. A published manuscript, which was accepted as a chapter in the book titled *Wellbeing, Recovery, and Mental Health*, forms the main body of the chapter. The book chapter is cited as:

> Hamling, K., & Jarden, A. (2016). Wellbeing and recovery in the emergency services: How do we care for those who care for us? In M. Slade, L. Oades, & A. Jarden (Eds.), *Wellbeing, recovery and mental health* (pp. 157–168). Cambridge, UK: Cambridge University Press.

The chapter concludes by outlining gaps in knowledge and limitations in research related to first responder wellbeing. The outcomes of the narrative literature review set the scene for the current study design, as discussed in the postscript of this chapter.

3.1 Relevance of a narrative literature review to this thesis

Narrative literature reviews are publications that describe and discuss the state of the science of a specific topic or theme from a theoretical and contextual view (Baumeister & Leary, 1997; Galvan & Galvan, 2017; Rother, 2007). They provide readers with a broad perspective on a specific topic or theme and often describe the history or development of a problem or its management (Green, Johnson, & Adams, 2006). A narrative literature review does not aim to reproduce data, as would be the case in a systematic literature review; instead, it conducts a broad investigation of a research topic. Narrative literature reviews do not require a well-defined question to guide the review of the literature (Ferrari, 2015). The selection criteria for articles included in the review do not have to be explicitly stated (Rother, 2007). In this study, the narrative literature review aimed to investigate first responder wellbeing in a broad sense. The aim of the review was to consider evidence from both academia and industry. The review aimed to broadly explore the functionality of incorporating wellbeing promotion into a deficit work culture such as the emergency services. Research and industry studies were examined to investigate what is known about first responder wellbeing and what interventions have successfully promoted wellbeing in an emergency service context.

The three main types of narrative literature reviews are editorials, commentaries, and unsystematic narrative literature reviews (Green et al., 2006). For the purpose of this thesis, a commentary style of narrative literature review was adopted. This type of review does not describe the methodological approach that enables reproduction of data or answer specific quantitative research questions (Rother, 2007). Therefore, the commentary can be considered a biased narrative review that draws upon the wisdom of the commentator (Green et al., 2006). Green et al. (2006) advised that a narrative literature review should “present information that is written using the required elements for a narrative review, be well structured, synthesize the available evidence pertaining to the topic, and convey a clear message” (p. 106). The review was published as a chapter in a peer-reviewed book.

The literature review predominantly relied on research conducted with non-emergency service workers as few studies have explicitly investigated how to promote wellbeing in an emergency service context. I used my knowledge and experience of working with first responders as a psychologist to select relevant studies that followed an evidenced-based practice (EBP) approach. The idea of EBP was first developed in the field of medicine and has been extended to many other professions (Sackett, Rosenberg, Gray, Haynes, & Richardson,1996). Evidence-based practice locates meaningful evidence that can be used to solve real-life, day-to-day issues and problems for practitioners and their patients, and is relevant and helpful to their immediate situation (Crisp, 2011).

A literature review is compatible with the mixed methods study design chosen for this study. Mertens (2014) acknowledged that familiarity with the literature is useful for both quantitative and qualitative studies. The literature review serves to introduce the topic of the research, build a rationale for the research problem, and evidence the need for additional research, which is relevant to quantitative and qualitative researchers (Mertens, 2014). Quantitative researchers use the literature to build a knowledge base of a topic to develop and test a hypothesis (Mertens, 2014). Qualitative researchers use literature to produce a sound rationale for a research question, to formulate a research plan, and to enhance the researcher's awareness of subtleties uncovered in previous research (Corbin & Strauss, 2007). The qualitative study presented in this thesis adopted Kathy Charmaz's (2014) variant of grounded theory. Charmaz (2014) supports the use of a literature review for the pragmatic reasons described above. The chapter now presents the narrative literature review (sections 3.2 to 3.2.4).

3.2 Published book chapter: Wellbeing in the emergency services: How do we care for those who care for us?

First responders, police, fire, and ambulance officers, perform a critical role in our society and therefore we need them working at their best. In this chapter, the authors posit that most emergency service organisations do not strive to help first responders achieve their best, but instead seek to prevent their worst. That is, there is a greater emphasis on secondary and tertiary interventions that aim to prevent ill health and an incongruent focus on a primary intervention designed to promote good health. The authors propose that there is much to be gained in having a more balanced approach to first responder wellbeing by using evidence from the field of positive psychology.

3.2.1 The current state of health in the emergency services

Evidence indicates that emergency service work leads to various adverse consequences for first responders (Regehr & Bober, 2005; Reynolds & Wagner, 2007). First responders are at higher risk of physical, social, and psychological problems compared with the general population (Berger et al., 2012; S. Johnson et al., 2005). The families of first responders are also affected by emergency service work. Recent research indicates that first responders' direct family members experience secondary traumatic stress and may meet criteria for post-traumatic stress disorder (PTSD; Alrutz, Buetow, Huggard, & Cameron, 2015). Wellbeing programs are commonplace in western emergency service organisations. However, research does not appear to support the effectiveness of many of these programs. Psychological first aid and psychological debriefing lack evidence of robust effectiveness (Devilly et al., 2006; Shultz & Forbes, 2014). Moreover, most wellbeing programs in emergency service organisations aim to prevent adverse health outcomes arising from traumatic operational events, despite evidence that this is not the primary source of their stress (Collins & Gibbs, 2003; Reynolds & Wagner, 2007; Stinchcomb, 2004).

International research has identified that the source of first responders' stress is not related to any one factor, but attributable to a complex interplay of multidimensional factors (Reynolds & Wagner, 2007). Stinchcomb (2004) demonstrated that organisational stressors and daily organisational hassles negatively affect first responders' wellbeing. Blau, Bentley, and Eggerichs-Purcell (2012) illustrated the negative effects of emotional labour and shift work. Organisational factors have been shown to have stronger associations with traumatic stress reactions than acute critical incidents do (Collins & Gibbs, 2003; Tuckey & Haywood, 2011). According to the Job Demands–Resources model (Bakker & Demerouti, 2007) and the conservation of resources theory (Hobfoll, 2002), cumulative exposure to high job demands deplete the physical and psychological resources of an individual, leaving fewer resources, such as resilience and social support, to cope effectively with subsequent stressors. Fewer resources increase vulnerability to burnout and psychological strain (R. T. Lee & Ashforth, 1996). Tuckey and Hayward (2011) argued that constant exposure to organisational stress depletes first responders' resources, leaving fewer resources to manage a traumatic operational event when

it does occur. Consequently, many wellbeing initiatives, with a focus on the operational aspects of the job, may not completely meet the needs of first responders.

A further limitation of wellbeing programs in the emergency services is that, despite the term 'wellbeing', many of these programs are by and large deficit based. That is, the programs focus on the prevention of, and recovery from, illness or injury associated with trauma exposure (Gist & Taylor, 2008). Historically, there has not been the same emphasis on promoting positive health in general, or on encouraging growth in recovery. One exception is the Priority One program in the Queensland Ambulance Service, which aims to promote resilience and growth in paramedics (Scully, 2011; Shakespeare-Finch & Scully, 2005). Despite the reported success of this wellbeing program, health promotion is not the norm across the industry.

In the past few decades, there has been a paradigm shift in the way that health, wellbeing, and recovery have been conceptualised and understood. Health is no longer conceived as merely the absence of illness or injury but as a state of optimal human functioning and positive wellbeing (Keyes, 2012). Recovery is now considered to involve a process of restoration and optimisation, rather than an outcome of reduced negative states (Provencher & Keyes, 2011). Emergency service organisations have not uniformly adopted this shift in health perspective (Hughes, Kinder, & Cooper, 2012). Hence, the focus of this chapter is to review evidence of the benefits of positive mental health and how to promote wellbeing in the emergency services.

3.2.2 Is health promotion relevant to the emergency services?

Traditionally, health has been defined and measured as the absence of illness, with the alleviation of ill health being thought to result in good mental health (Seligman & Csikszentmihalyi, 2000). However, health and wellbeing is more holistic, as recognised in the World Health Organization's (1948) definition of health: "a state of complete physical, mental and social wellbeing, and not merely the absence of disease" (p. 1). As discussed next, positive psychology researchers have been investigating the complete state of mental wellbeing.

According to Keyes (2005), health forms along two continuums, one indicating the presence or absence of positive mental health and the other indicating the presence or absence of mental illness. Although there is a tendency for mental health to improve as mental illness symptoms decrease, this connection is relatively modest. The lack of mental illness does not automatically result in presence of mental health (Huppert & Whittington, 2003; Keyes, 2005). Individuals who experience a complete state of mental health have been shown to simultaneously experience symptoms of positive mental health and experience no symptoms of psychological impairment. Positive mental health includes both (1) hedonic aspects: positive feelings (life satisfaction, positive emotions, and the absence of negative emotions); and (2) eudaimonic aspects: positive functioning (engagement, fulfilment, sense of meaning, and social wellbeing). The focus of this chapter is on positive mental health, also known as flourishing, because of the associated benefits.

Individuals who flourish in life experience superior psychological functioning regarding positive emotions, higher resilience, and less depression and anxiety (Sin & Lyubomirsky, 2009). Flourishing people are more physically well regarding their cardiovascular health and a stronger immune system (Boehm & Kubzansky, 2012; S. Cohen, Doyle, Turner, Alper, & Skoner, 2003; Pressman & Cohen, 2005). Socially, people in a flourishing state also experience better functioning in families, communities, and workplaces than those with incomplete health (Llewellyn, Lang, Langa, & Huppert, 2008; Sin & Lyubomirsky, 2009). People with high wellbeing participate in healthy behaviours more, such as eating more healthily, exercising more, smoking less, and being involved in positive social relationships (Blanchflower, Oswald, & Stewart-Brown, 2013; Grant, Wardle, & Steptoe, 2009; Lyubomirsky, Sheldon, & Schkade, 2005). Wellbeing could explain why people achieve superior health outcomes in life. People who flourish in life also experience abundant positive emotions, such as happiness, joy, and awe, which have been shown to broaden people's cognition and attention (Fredrickson, 2003).

Broadened attention helps people to think more expansively, flexibly, and creatively, and this builds a repertoire of coping strategies, enabling resilient responding to stress and trauma (Cohn, Fredrickson, Brown, Mikels, & Conway, 2009; Fredrickson, 2002). Positive emotions are particularly relevant to the emergency services, as shown in a recent police study. Galatzer-Levy et al. (2013) demonstrated that lower self-reported negative emotions and higher self-reported positive emotions reported by police recruits (n = 234) predicted resilience outcomes across the first four years of active duty. Positive emotions are associated with lower cortisol and improved vagal tone functioning, which is shown to regulate heart rate when people are exposed to stress and trauma (Howell et al., 2007; Kok et al., 2013). Consequently, first responders are likely to benefit from regular doses of positive emotions.

Positive emotions may also have a pivotal role to play when dealing with traumatic events. PTSD and heart rate variability are linked (Tan, Dao, Farmer, Sutherland, & Gevirtz, 2011). Positive emotions have been shown to hasten cardiovascular recovery (Tugade & Fredrickson, 2004). Therefore, positive emotions may help to prevent the onset of PTSD in first responders. Moreover, PTSD is known to affect the same places in the brain as positive emotions do, that is, the prefrontal cortex and amygdala (Bryant et al., 2008; Garland et al., 2010). Any chance to reduce PTSD suggests a further reason to promote flourishing states in all first responders.

When considering recovery in a health-promoting sense, the focus shifts from restoration to personal growth, strength, and transformation. The process of mobilising resources to work through and overcome adversity fosters personal growth for some people, known as post-traumatic growth, or PTG (Tedeschi & Calhoun, 2004). People who experience PTG have a greater appreciation for life, more meaningful relationships, enhanced spiritual beliefs, a new or renewed direction and purpose in life, and an increased sense of personal strength (Taku, Cann, Calhoun, & Tedeschi, 2008). Fostering the conditions for PTG in the emergency services has merit, with evidence that PTG is linked with less depression, higher positive affect, self-

esteem, life satisfaction, and improved physical health (Helgeson, Reynolds, & Tomich, 2006; Triplett, Tedeschi, Cann, Calhoun, & Reeve, 2012).

In summary, evidence suggests that a health promotion approach is relevant to first responders. A recent return on investment analysis also revealed an average AU$2.30 return in benefits for each dollar spent on staff wellbeing (beyondblue & PwC, 2014). Hence, emergency service organisations would benefit from adopting a health promotion approach to protecting first responder wellbeing.

3.2.3 Can first responders flourish at all levels?

Increasing wellbeing in the workplace is an individual, group, and organisational responsibility according to Jarden (2015). Addressing wellbeing at each of these levels provides workers with a stronger "resource reservoir" (Hobfoll, 2002, p. 318). Highly resourced individuals use more adaptive coping strategies, believing that they can improve the stressful situation (Ito & Brotheridge, 2003). However, low resourced individuals use more avoidant coping strategies, to conserve existing resources and prevent future resource loss (Ito & Brotheridge, 2003). This section focuses on wellbeing initiatives at the individual, group, and organisational level to investigate whether first responders can flourish at all levels.

Individual level wellbeing initiatives

The four psychological resources of hope, resilience, self-efficacy, and optimism independently produce significant benefits to employee wellbeing, and collectively they create the higher order construct known as psychological capital (PsyCap; Avey, Luthans, Smith, & Palmer, 2010). PsyCap has been shown to have positive effects on employee health, work, and relationships (Luthans, Youssef-Morgan, & Avolio, 2015). PsyCap is associated with higher overall wellbeing (Culbertson, Fullagar, & Mills, 2010). Schaubroeck, Riolli, Peng, and Spain (2011) illustrated the relationship between PsyCap and wellbeing in military soldiers. Soldiers (n = 648) involved in active combat deployment and assessed as high in PsyCap were more likely to appraise a potentially traumatic situation as a challenge versus a threat, compared with individuals low in PsyCap. In turn, high PsyCap soldiers reported less ill health such as anxiety, somatic complaints, and depression (Schaubroeck, Riolli, Peng, & Spain, 2011). Walumbwa, Peterson, Avolio, and Hartnell (2010) illustrated in a police study that the PsyCap of leaders significantly predicted their direct followers' PsyCap, which in turn predicted higher performance ratings. Studies have shown that increasing PsyCap at the individual and group level is possible (Dello Russo & Stoykova, 2015; Luthans, Avey, & Patera, 2008; Luthans et al., 2015).

Group-level wellbeing initiatives

Each occupation is unique in the demands that are placed upon employees (Bakker & Demerouti, 2007). Therefore, the resources that protect and promote employee wellbeing may differ according to occupational context. Hart et al. (2015) argued that identifying and improving the resources most meaningful to individual employees can improve the general organisational climate within organisations. In turn, this has been shown to increase morale and decrease

psychological distress within individuals and teams. Identifying the resources that are most meaningful to first responders' wellbeing is difficult as there are no known studies in this area. Nonetheless, social support and effective leadership are two group-level resources that have been shown to positively affect wellbeing and recovery in diverse occupational groups, including first responders.

Social support protects against cardiovascular disease (Kaplan et al., 1988). Evidence shows that when people feel socially supported their experiences of burnout and PTSD are reduced, while PTG is enhanced (Brewin, Andrews, & Valentine, 2000; Prati & Pietrantoni, 2009). In a study of volunteer firefighters, camaraderie was shown to have the most consistent protective effect against poor psychological health, beyond a diverse range of other workplace variables (Tuckey & Hayward, 2011). Social support is critical for first responders. When police officers feel socially supported, they experience higher PTG, optimism, and adaptive coping (Prati & Pietrantoni, 2009). The same results are found with paramedics and firefighters (Armstrong, Shakespeare-Finch, & Shochet, 2014; Shakespeare-Finch, Gow, & Smith, 2005). Given the relationship between social support and improved wellbeing outcomes, there should be a greater emphasis on enhancing the quality of supportive relationships available to first responders. A successful psychosocial intervention shown to strengthen relationships is called active–constructive responding (ACR; Gable, Reis, Impett, & Asher, 2004). ACR is a simple exercise that teaches people to respond to good news in an enthusiastic manner, thereby enhancing the feel-good factor of that news, as shown in Figure 2.

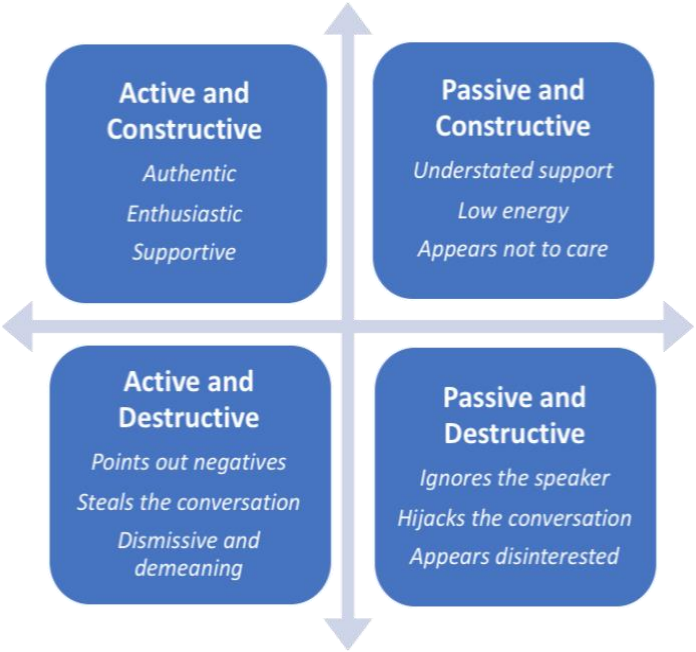


Figure 2. Communication styles of responding to good news

Responding to others actively and constructively has the effect of prolonging conversations and encouraging the sharing of positive events, which in turn promotes relationship satisfaction and increases in wellbeing (Gable et al., 2004; Seligman, Rashid, & Parks, 2006). The United States

Military's Comprehensive Soldier Fitness program teaches ACR to peer support officers and higher ranked officers, with a range of positive outcomes reported (Reivich, Seligman, & McBride, 2011). Educating and coaching peer support officers and the chain of command in this straightforward technique would be a cost-effective, time-efficient, and simple way to yield positive returns. Practising ACR could be a way to strengthen relationships and increase positive emotions throughout emergency service organisations.

Leader behaviour directly contributes to stress in first responders (Brough, 2005). Improving the quality of leadership practices within the emergency services may be a useful primary prevention initiative. Indeed, supportive and positive leadership behaviours, such as transformational leadership, are associated with increased workplace resources including trust, support, and teamwork, enhanced job design, and organisational climate (Dutton & Spreitzer, 2014). When subordinates have positive and supportive leaders, they are less likely to suffer burnout and job-related stress (Corrigan, Diwan, Campion, & Rashid, 2002; Sosik & Godshalk, 2000). They are more likely to experience higher wellbeing and resilience (Harland, Harrison, Jones, & Reiter-Palmon, 2005; Tafvelin, Armelius, & Westerberg, 2011).

Transformational leaders can naturally motivate and appeal to others' emotions, elicit respect from others, support subordinates' unique developmental needs, and stimulate subordinates' desire to learn and develop themselves (Bass & Riggio, 2006). Although some management programs have shown effectiveness in raising transformational leadership, they are generally expensive and labour intensive (Kirkbride, 2006). Given the constraints upon emergency service organisations, such as budgets, time, and cultural considerations, any efforts to encourage a more transformational leadership approach must be made feasible. Lyons and Schneider (2009) illustrated that simply changing the style of language from transactional to transformational can improve people's performance, perception of social support, and efficacy beliefs, and reduce their perceived stress. We suggest that educating and coaching managers about the importance of language when communicating with staff may be another simple and cost-effective way to yield significant wellbeing returns.

Incorporating transformational leadership into everyday practices within the emergency services might have an incidental flow-on effect to first responder wellbeing. For example, managers could start meetings by investigating what has recently gone well, and why it has gone well, as a way of introducing positive emotions into the workplace. The 'what went well' exercise is a positive psychological intervention shown to increase wellbeing (Seligman, 2012). The expression and receipt of gratitude are also strongly linked with positive emotions and wellbeing (Emmons & Mishra, 2011). Encouraging more gratitude within emergency service organisations may have reverberating effects throughout the organisation. Rather than only ever hearing from their boss when something has gone wrong, we suggest that there is much to be gained when first responders hear from their boss when something has gone right.

Job crafting is another simple yet effective process shown to have profound effects on employees' wellbeing and job performance (Wrzesniewski & Dutton, 2014). Job crafting occurs when employees are empowered to change aspects of their jobs to better meet their psychological needs, such as autonomy, strengths, passions, and values. In doing so, employees experience more meaning and engagement in their work, which has the effect of generating the resources to better meet their job demands (Tims, Bakker, & Derks, 2013). The first author believes that there are ample opportunities for job crafting in the emergency services, having witnessed this firsthand over many years. For example, a station officer encouraged his subordinate, a firefighter who excelled in health and fitness, to lead the physical training drills for his platoon. A police officer with a passion for community successfully applied for a Community Policing role. A paramedic who loved to teach and mentor worked in an education role. Identifying the strengths, passions, and values of first responders and accommodating these through job crafting need not be a challenging endeavour, and may inadvertently lead to additional wellbeing benefits.

Organisational level wellbeing initiatives

A positive organisational climate is critical to employee wellbeing and performance. Employees working in positive organisations experience better mental and physical health, higher work engagement, and lower burnout (Crawford, Lepine, & Rich, 2010; Heaphy & Dutton, 2008; Schaufeli & Bakker, 2004). In a survey of over 1,400 United Kingdom soldiers deployed to Afghanistan in 2010, a time of high combat exposure, Jones et al. (2013) found that self-reported levels of high unit cohesion, morale, and perceived good leadership were all associated with lower levels of common mental disorders and PTSD. Moreover, studies have revealed that positive leadership practices and the quality of an organisational climate have a much higher impact on employee wellbeing and regulatory performance measures, such as absenteeism and compensation premiums, than only reducing or eliminating workplace stressors (Cotton & Hart, 2003).

In light of the evidence, it seems prudent that organisations become a source of wellbeing for first responders. The HEalthy and Resilient Organisation (HERO) model proposed by Salanova, Llorens, Cifre, and Martínez (2012) places equal emphasis on organisational, group, and individual factors when considering how to promote the positive health and wellbeing of a workforce. Validation studies of the HERO model have revealed that when organisations have healthy practices and resources at each level, such as team autonomy, supportive team climate, and transformational leadership, teams report healthier outcomes, including higher self-efficacy, engagement, and resilience (Salanova, Llorens, Cifre, & Martínez, 2012). Salanova et al. (2012) said that HERO organisations achieve favourable organisational outcomes, such as team in-role and extra-role performance, and customer loyalty and satisfaction. Perhaps emergency service organisations should consider becoming HEROs.

Employee wellbeing is also affected by the interface between work and non-work (Sonnentag, Niessen, & Neff, 2012). As discussed next, emergency service organisations should also address employee wellbeing outside the workplace.

Peripheral level wellbeing initiatives

Crain and Hammer (2013) reported that workplace resources such as leadership and workplace support, job control and variety, autonomy, and learning opportunities spill over into other life domains. The quality and functioning of family and friend relationships are shown to benefit indirectly from workplace resources (Crain & Hammer, 2013). This spillover effect, labelled work-to-family enrichment, aids in the restoration of energy and resources in non-work time and leads to a range of positive wellbeing outcomes (Sonnentag et al., 2012). Work-to-family spillover can be compromised in the emergency services because of the high demands of emergency service work (Hall, Dollard, Tuckey, Winefield, & Thompson, 2010). When first responders return home exhausted, this affects their family life, leading to work–family conflict, further emotional exhaustion, and even secondary traumatic stress in family members (Hall et al., 2010). Nonetheless, first responders in committed relationships fair better in their health than those who are single (Shaffer, 2010).

Sonnentag et al. (2012) reported that experiences such as sports and exercise can help people psychologically detach from work, preventing stress from work spilling over into non-work time. They illustrated that psychologically disconnecting from work before going home enables people to connect with family and leisure activities, which helps to restore depleted resources. Teaching people how to detach from work psychologically improves wellbeing outcomes such as self-efficacy, sleep quality, perceived stress, and affect (Hahn, Binnewies, Sonnentag, & Mojza, 2011). Regehr and Bober (2005) noted that this is highly relevant to first responders as their work often travels home with them, in a psychological sense.

3.2.4 Conclusion to the book chapter

To protect and promote first responder wellbeing it is imperative that multidimensional approaches guide wellbeing programs (Reynolds & Wagner, 2007). This chapter provides examples of primary, secondary, and tertiary interventions. We advocate that multidimensional wellbeing programs focus on a continuum of health, from prevention and treatment to the promotion of good mental health in first responders. Given the evidence that the experience of flourishing buffers against stress and trauma, we recommend that emergency service organisations increase the rates of flourishing in first responders, as a primary prevention initiative. Cooperrider (2014) suggested that “by taking attention away from something, we can accomplish even more than if we went directly after it” (p. 160). Therefore, pursuing wellbeing directly via secondary and tertiary interventions may not be as effective as fostering the conditions that naturally promote wellbeing via primary prevention initiatives. As illustrated in this chapter, primary interventions could include job crafting and improving the quality of social relationships. Primary interventions may increase first responders’ reservoir of resources and

give them the much needed intrinsic motivation and energy to effect change across all levels of the organisation.

3.3 Postscript

This chapter used empirical evidence from the field of positive psychology to argue the merits of using positive psychology interventions to protect first responder wellbeing. The literature review identified that few wellbeing interventions were designed or validated within an emergency service context. The literature review was forced to rely on research conducted with non-emergency service workers as I identified no studies that had explicitly investigated how to promote wellbeing in an emergency service context. Indeed, at the time of conducting the literature review, no studies had been identified that investigated how workers in different occupational contexts experience wellbeing, including the emergency services. The narrative literature review revealed limitations in wellbeing research within the positive psychology and occupational wellbeing fields.

Despite the popularity of positive psychology interventions, critics question the research underpinning many of these interventions (Brown, Sokal, & Friedman, 2014; Ciarrochi et al., 2016; Davies, 2015; Frawley, 2015). Critics have reported that few studies illustrate when, why, and how positive psychology interventions are effective and acknowledge that few studies have shown which positive psychology interventions are most effective for different populations (Ciarrochi et al., 2016; Lynch, 2009). In the occupational wellbeing field, Karanika-Murray and Biron (2015) have also criticised the state of the research. They argue that most studies report when a wellbeing intervention has "worked", but not why and how it "worked" (p. 3). Occupational wellbeing researchers argue that a lack of understanding about how, when, and why organisational wellbeing interventions are effective can help to explain the high rate of implementation failure of the wellbeing interventions reported in the literature (Cooper, 2015; Karanika-Murray & Biron, 2015; Randall & Nielsen, 2012). According to Frawley (2015), many wellbeing studies produce results that are based on "bad science" (p. 66), and other scholars agree (Brown, MacDonald, Samanta, Friedman, & Coyne, 2014; Brown, Sokal, & Friedman, 2014; Coyne & Tennen, 2010).

An over-reliance on quantitative methods in the positive psychology field has also produced an over-simplistic understanding of wellbeing (Christopher & Hickinbottom, 2008; Hefferon et al., 2017; Held, 2002; McDonald & O'Callaghan, 2008; Miller, 2008; Taylor, 2001). Researchers in the positive psychology field have relied on a quantitative methodology to answer questions related to what people experience as wellbeing (Hefferon et al., 2017). However, the use of qualitative or mixed methods methodologies to explore how, when, and why people experience wellbeing is sparse (Ciarrochi et al., 2016; Hefferon et al., 2017). Taylor (2001) argued that the over-simplistic understanding of wellbeing in the positive psychology literature relates to the underlying assumption that people all have the same basic wellbeing needs. Consequently, prominent models of wellbeing are decontextualised and targeted at the individual (Ferguson, 2007; Joseph et al., 2009; McDonald & O'Callaghan, 2008). Indeed, scholars in fields such as

humanistic psychology argue that removing context when researching wellbeing is unethical (Brown, Lomas, & Eiroa-Orosa, 2018).

Joseph et al. (2009) argued that the individualistic and positivist approach to wellbeing research "tends to locate 'maladjustment' inside the person, rather than construe it to be a product of an individual's social ecology, including institutional structures that may work against well-being" (p. 38). Other researchers agree that positive psychology interventions overburden people with responsibility for making themselves well (Becker & Marecek, 2008; Brown & Harris, 2012; Christopher & Hickinbottom, 2008; Ciarrochi et al., 2016; R. G. Wilkinson, 2005). In the past decade, scholars have criticised positive psychology research findings for being superficial, unrealistic, and lacking in external validity (Brown et al., 2018; Coyne & Tennen, 2010; Parks & Biswas-Diener, 2013). For example, Parks and Biswas-Diener (2013) reported that many positive psychology interventions are based on studies that are conducted in laboratories, which bear little resemblance to situations encountered by people in the real world. Brown et al. (2018) illustrated that many positive psychology interventions have not been replicated. Consequently, scholars have called for new knowledge about wellbeing that is more active and contextualised to different populations (González, Swanson, Lynch, & Williams, 2016; Hefferon et al., 2017; Lynch, 2009). In doing so, researchers can take a more ethical approach to wellbeing research and produce research findings that are practically useful.

In summary, much of the positive psychology and occupational wellbeing research has been conducted in the positivist paradigm (Hefferon et al., 2017; Karanika-Murray & Biron, 2015). McDonald and O'Callaghan (2008) argued that the adherence to a "dogmatic set of rules and regulations" in wellbeing research has restricted our understanding of the intricacies of this complex human experience (p. 139). Hefferan et al. (2017) argued for the "bringing back of epistemology and ontology" in wellbeing research to generate different knowledge about wellbeing (p. 212). Therefore, in the current study, the choice of methodology and methods to research wellbeing were carefully considered.

3.4 Chapter summary

The narrative literature review presented in this chapter focused on positive psychology interventions to protect first responder wellbeing. In the process of conducting the narrative literature review, gaps in knowledge and limitations in positive psychology wellbeing research were revealed. Few positive psychology wellbeing interventions have been designed or evaluated in an emergency service context. Few studies have investigated how people working in different occupational contexts, including the emergency services, experience wellbeing. The chapter reviewed some of the criticisms of positive psychology wellbeing research and the unethical implications of decontextualised models of wellbeing. The factors raised in this chapter have assisted in determining the most suitable methodology and methods of this thesis. The next chapter provides a reflexive account of the methodology underpinning this study.

Chapter 4. Research philosophy and methodology

The first section of this chapter provides a general overview of common paradigms in social science research. The pragmatist philosophy underpinning this thesis is explained, including the rationale for the use of a pragmatist view to underpin this mixed methods study. The chapter then details the mixed methods research methodology that was selected to meet the aims and objectives of this study. The chapter concludes with a reflexive account to demonstrate congruence between the research question, the research philosophy, the study design, and my worldview as the researcher.

4.1 Research paradigms

Researchers have different worldviews that are underpinned by their beliefs about the nature of reality and knowledge, and their ethics and value systems (Chilisa & Kawulich, 2012). The worldview of researchers guides their thinking and how they interpret the world around them (Chilisa & Kawulich, 2012). Such worldviews are referred to as paradigms (Denzin & Lincoln, 2017). Paradigms serve as "the net that contains the researcher's epistemological, ontological, and methodological premises" (Denzin & Lincoln, 2017, p. 22).

Denzin and Lincoln (2017) noted that researchers' paradigms are informed by their beliefs about ontology, epistemology, and methodology. Ontology refers to the nature of reality, in terms of one verifiable reality or multiple constructed realities (Denzin & Lincoln, 2017). Epistemology is the study of the nature of knowledge and ways of knowing (Denzin & Lincoln, 2017; Mertens, 2014). Methodology refers to the theoretical principles that influence the approach that a researcher takes when investigating a research question (Teddlie & Tashakkori, 2009). The philosophical assumptions underpinning paradigms influence the methodology and in turn the research methods selected for a study (Teddlie & Tashakkori, 2009).

Creswell (2014) identified four main types of paradigms (worldviews): positivism/post-positivism, interpretivism/constructivism, pragmatism, and transformative. The main methodologies used in social science research are underpinned by one of these paradigms (Chilisa & Kawulich, 2012). For example, positivism/post-positivism is generally associated with a quantitative methodology, interpretivism/constructivism is associated with a qualitative methodology, and pragmatism is associated with a mixed methodology (Guba & Lincoln, 1994; Plano Clark & Creswell, 2008). A summary of the paradigms most common to social science in relation to ontology, epistemology, methodology, and methods is provided in Table 1.

Table 1

A Summary of the Common Paradigms Guiding Social Science Research

	Research paradigms			
Paradigm features	**Positivism**	**Post-positivism**	**Constructivism/ Interpretivism**	**Pragmatism**
Purpose of research	To discover universal laws	To discover universal laws within a social context	To understand the meaning individuals or groups ascribe to their experiences	To produce knowledge that has practical positive consequences for people and society
Ontology	A single absolute external reality exists.	An external reality exists, but it can only be known imperfectly because of researcher bias.	There is no single external reality; multiple realities exist that are socially constructed.	An external reality exists, but it is created by the ongoing activity of people and is constantly changing.
Epistemology	Objectivist: reality can be measured objectively and tested empirically.	Objectivist: researchers use tools to reduce bias, so as to understand reality as objectively as possible.	Relativist: reality must be interpreted to discover the meaning of events.	Instrumentalism: knowledge is a tool used to solve problems.
Methodology	Deductive reasoning to verify hypotheses using quantitative methods	Deductive reasoning to falsify hypotheses using quantitative, qualitative, or mixed methods	Inductive[a] reasoning to develop a theory using qualitative methods	Abductive, inductive, and deductive reasoning to solve practical problems general using mixed methods

Note. Based on Creswell (2007), Crotty (1998), Denzin and Lincoln (2017), Guba and Lincoln (1994).

[a] Qualitative researchers argue that some qualitative methods, such as grounded theory, include inductive, deductive, and abductive reasoning (Ward, 2017).

Many factors determine the paradigm and methodology selected for a particular study (Chilisa & Kawulich, 2012; Creswell, 2014; Heffernan et al., 2017). Some factors include the researcher's training and experience, the researcher's value systems, the audiences for the study, and the nature of the research problem (Creswell, 2014). The factors that determined the paradigm and methodology selected for this study are presented next.

Chapter one outlined how this study sought to investigate what people experience as wellbeing across different occupational contexts, and how first responders experience wellbeing in the context of the emergency services. Achieving these aims was not considered possible with a quantitative or qualitative methodology alone. By way of explanation, one aspect of the research question included a priori ideas that were tested using quantitative data. The other aspect of the research question did not begin with a priori ideas and instead sought to generate and test new ideas using qualitative data. Hence, positivism/post-positivism and constructivist interpretivist paradigms were not suitable for this research. The current study required the use of multiple approaches to study the complex nature of wellbeing. To that end, a mixed methods methodology was selected to use different methods of data collection, analysis, and interpretation to address the aims of this study. The paradigm that best underpinned the mixed methods methodology was pragmatism. Pragmatism aligns well with a mixed methods approach because of the compatible ontological and epistemological assumptions underpinning the approaches (Teddlie & Tashakkori, 2009). Pragmatism is typically associated with mixed methods research (R. B. Johnson & Onwuegbuzie, 2004).

A pragmatist paradigm provided a way to combine quantitative and qualitative data, and research wellbeing in a way that could provide the most useful knowledge for first responders and emergency service organisations. The current study also uses pragmatism as an epistemology to overcome limitations in wellbeing research, and thereby contribute novel research to the wellbeing literature. These points will be expanded upon in this chapter, which begins by describing pragmatism in relation to ontology and epistemology in the next section.

4.2 Pragmatism

Pragmatist philosophy arose from the work of Charles Sanders Peirce (1839–1914), William James (1842–1910), and John Dewey (1859–1952). Pragmatism is viewed both as one coherent philosophy and as one having distinct interpretations depending on the pragmatist scholar followed (Maxcy, 2003; Shalin, 1986). The works of John Dewey (1906, 1929, 1938) influenced the current study. This section explains the ontological and epistemological assumptions of pragmatism from Dewey's perspective.

4.2.1 The ontology of pragmatism

Most branches of psychology today are underpinned by a positivist and post-positivist ontology (Hefferon et al., 2017; Smith, 2015). Researchers subscribing to an objectivist reality use a quantitative methodology to objectively measure reality to understand generalisable laws (Creswell, 2014). In doing so, a quantitative methodology encourages an objective understanding of human wellbeing (Ciarrochi et al., 2016). Pragmatists reject the notion of one objective reality that can be 'discovered' (Aune, 1970; Maxcy, 2003). An objectivist ontology treats the social world in the same way as the natural world (Hookway, 2012). That is, a social reality exists independently of a person's body and mind, lending itself to accurate observation and measurement (Guba & Lincoln, 1982). Pragmatists also reject a subjectivist ontology, which

states that there is no external reality and that reality is purely subjective (Guba & Lincoln, 1982). Subjectivists assert that there are multiple constructed realities and that the subjective knower is the only source of reality (Guba & Lincoln, 1982). Generalisations are not the focus of subjectivist inquiry. Instead, explanations are generated inductively from data (Guba & Lincoln, 1982; R. B. Johnson & Onwuegbuzie, 2004). Pragmatist philosophy is more flexible than an objectivist and subjectivist philosophy, and proposes a middle ground between these two worldviews.

Dewey's (1929) variant of pragmatism is underpinned by an ecological worldview, whereby the mind, body, and the world are mutually created by their ongoing interaction. According to Dewey (1922), an external reality exists, but it is created by the ongoing activity of people and exists in a constant state of flux (Shalin, 1986). Pragmatists suggest that people can never achieve one determinate view of reality because the world is always changing and never fully finalised (Dalsgaard, 2014; Dewey, 1922). Dewey (1929) reasoned that it is human nature for people to want to make sense of their situations and attain stability in them. However, as very few situations remain determinate over time, people can never achieve one stable or static understanding of things. Wellbeing, then, like any other human experience, cannot be uniformly experienced. Therefore, wellbeing is not a static entity from a pragmatist perspective but rather something that evolves with individuals as their context changes (Hamling & Jarden, 2015). People experience wellbeing differently across their lifetimes, depending on how their context changes. Other researchers concur, with studies identifying that wellbeing is a dynamic experience resulting from interconnections between biological, psychological, social, spiritual, and historical causes (Campion & Nurse, 2007; Ciarrochi et al., 2016; Cloninger, Salloum, & Mezzich, 2012; Cloninger, Zohar, & Cloninger, 2010; Mezzich, Botbol, Christodoulou, Cloninger, & Salloum, 2017).

Given the dynamic nature of reality, Dewey (1922) reasoned that human qualities can only be understood relative to their context. For example, a bitter taste exists comparative to what has just been eaten, the taste expected, and previous experiences of bitter (Dewey, 1922). Dewey (1922) determined that all human qualities are pliable and change according to context. He stated, "any impulse may become organised into almost any disposition according to the way it interacts with surroundings" (Dewey, 1922, p. 98). For instance, Dewey (1922) illustrated that a child's anger towards a bully is different to the anger he displays towards the family cat. According to pragmatist philosophers, the search for a static and universal meaning for any human quality is therefore futile. People can only come to understand such phenomena by observing how human qualities are valued by the social and cultural contexts in which they function. Deweyan pragmatism reinforces Diener and Suh's (2000) argument raised in chapter three that phenomena related to wellbeing may not be universal but subject to cultural relativism. Dewey (1922) suggested that qualities should not be assigned one single, immediate, unchangeable meaning, but should be understood transitively with their dynamic environment. The current study adopted this pragmatic worldview by seeking to understand wellbeing in context.

Pragmatism is, therefore, a moderate and flexibility philosophy that is based on how well research works for solving problems (R. B. Johnson & Onwuegbuzie, 2004). Dewey (1922) argued that knowledge comes via interactions and reflection, referred to as experience. He reasoned that reality is structured by the experiences of people as they attempt to create stability in their world. The concept of experience is related to pragmatist epistemology, as outlined in the next section.

4.2.2 The epistemology of Deweyan pragmatism

Traditionally in psychology, acquiring knowledge was a private and passive experience (Biesta & Burbules, 2004). People accumulated knowledge by the mere observation of an external reality and nature impressed itself onto the mind as onto a blank slate (Pinker, 2003). Knowledge was thought to be a mirror, or representation, of an objective reality, which Dewey (1906) referred to as the spectator theory of knowledge. This positivist epistemology was rejected by pragmatists, who viewed learning and knowing to be a dynamic and interactive experience. People acquire knowledge and learn, not only through a priori knowledge and perceiving discrete and external stimuli but also by actively engaging with their environment (Anderson, 2014; Hildebrand, 2008). Dewey (1922) addressed the question of knowledge from an action-theoretical framework; ergo, knowledge (or 'knowing') is understood as a way of doing.

Deweyan pragmatism is founded in Darwinian evolutionary theory, which focuses on an organism's adaptation to its changing environment (Dewey, 1929). In evolutionary theory, not only does the organism act on its environment, but the resulting changes in the environment, in return, act on the organism. Dewey's (1922) theory is that experience (and knowledge) arise from the ongoing relationship between continuity and interaction. Continuity suggests that each experience a person has will influence their future, as shown in Figure 3.

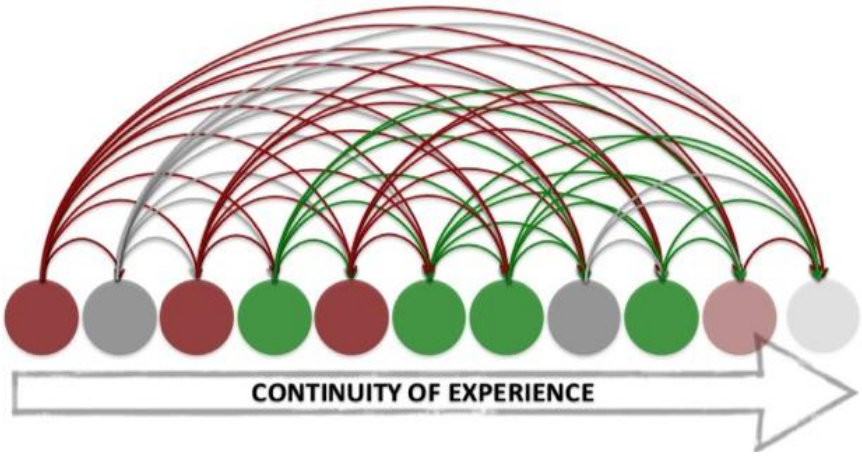


Figure 3. Continuity of experience according to Deweyan pragmatism. From M. Zielezinski (2016). *Dewey's experiential continuum infographic* by M. Zielezinski, 2016. Retrieved from https://www.slideshare.net/molly_bullock/deweys-experiential-continuum-infographic. Copyright 2016 by M. Zielezinski, 2016. Reprinted with permission, see Appendix B.

Interaction refers to the situational influences on a person's experience. In experience, people undergo the consequences of their actions and change as a result. Accordingly, Dewey (1938) reasoned, people continuously interact with their environment in a way that it is cumulative and mutually modifying, as shown in Figure 4.

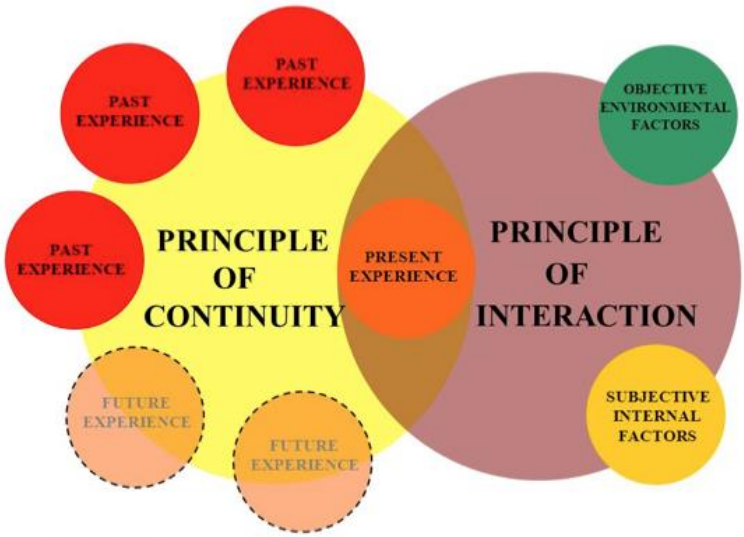


Figure 4. The relationship between continuity and interaction in Deweyan pragmatism. From R. Enfield (2004). Dewey's *continuity and interaction infographic* by R. Enfield, 2004. Retrieved from https://*http://slideplayer.com/slide/7232470/.* Copyright 2016 by R. Enfield, 2004. Reprinted with permission, see Appendix B.

The purpose of knowledge is not to gain mastery over our world, but to gain mastery in our world (Biesta, 2004; Dewey, 1929). Knowledge helps people to intelligently plan and direct their actions to transform uncertain situations into those more controlled and certain (Biesta, 2007; Dewey, 1930). In the context of this thesis, the purpose of the study was to generate knowledge to help first responders gain stability in their work and lives. The research adopted a pragmatist philosophy to investigate why emergency service work harms first responder wellbeing. The research aimed to understand wellbeing and investigate how first responders deal with problems in their lives to maintain wellbeing. The current research adopted a problem-solving approach to first responder wellbeing, which follows the Deweyan pragmatist philosophy.

According to Dewey (1938), people actively come to know via a process of inquiry that resembles the scientific method. Dewey (1938) reasoned that people apply the same processes to define, understand, and resolve problems in their own lives as scientists do when investigating any phenomenon. Consistent with Dewey's (1938) reasoning, as people confront problems they come up with ideas, or hypotheses, about how to solve the problem. If they solve the problem successfully, and the hypothesis has moved the indeterminate situation towards stability, then knowledge is gained. Problem definition is therefore critical in Deweyan pragmatism, because how people define a problem determines how they solve the problem. According to Dewey (1938):

> Without a problem, there is blind groping in the dark. The way in which the problem is conceived decides what specific suggestions are entertained and which are dismissed;

> what data are selected and which rejected; it is the criterion for relevancy and irrelevancy of hypotheses and conceptual structures. (p. 108)

Therefore, this study aimed to produce knowledge that extended beyond 'what' first responders experience as wellbeing. The study also aimed to understand the problems that first responders encounter as they try to maintain wellbeing, and 'how' and 'why' they overcame problems to maintain their wellbeing.

Dewey (1948) described the epistemic criterion for knowledge acquisition as practicality. Knowledge is a tool to help humans adapt to changing circumstances, thereby growing from the experience. This concept is illustrated well by Dewey (1948):

> The process of growth, of improvement and progress, rather than the static outcome and result, becomes the significant thing ... the end is no longer the terminus or limit to be reached. It is the active process of transforming the existent situation. Not perfection as the final goal but the ever enduring process of perfecting, maturing, refining is the aim in living ... growth itself is the only moral end. (p. 177)

Dewey (1930) argued that knowledge should be used to improve problems in reality, rather than remain in an abstract form. He stated that "conceptions, theories and systems of thought … are tools. As in the case of all tools, their value resides not in themselves but in their capacity to work shown in the consequences of their use" (Dewey, 1920, p. 163). Pragmatists equate 'truth' with what is helpful or fruitful in any given situation and not a single overarching principle of morality (Hildebrand, 2008; Maxcy, 2003). In this sense, theory and practice merge, and theories are only useful if they help us adapt to our world. Accordingly, this thesis evaluates knowledge in line with Deweyan pragmatism.

In this current section, the pragmatist paradigm has been explained from its ontological and epistemological perspective. A justification for the use of a particular research paradigm is the first step to establish rigour in a scientific study (O'Cathain, Murphy, & Nicholl, 2008). Accordingly, pragmatism was presented as the chosen approach to research wellbeing in this study. Pragmatism is ideally suited to mixed methods research, as outlined in the next section.

4.3 Research methodology

This section presents an explanation of how the pragmatist philosophy suits the mixed methods methodology selected for this study.

4.3.1 Pragmatism and mixed methods methodology

A pragmatist epistemology acknowledges both objective and subjective ways of knowing, and that "truth is what works at the time" (Creswell, 2014, p. 11). Pragmatism is the foundation for most mixed methods studies (Tashakkori & Teddlie, 2003). Mixed methods researchers are guided by practicality, whereby they use different research methods, techniques, and procedures to collect data according to what works when addressing the research problem (Creswell & Plano Clark, 2007). R. B. Johnson and Onwuegbuzie's (2004) statement below reflects the strong associations between the philosophical position of pragmatism and mixed methods research:

> We agree with others in the mixed methods research movement that consideration and discussion of pragmatism by research methodologists and empirical researchers will be productive because it offers an immediate and useful middle position philosophically and methodologically; it offers a practical and outcome-oriented method of inquiry that is based on action and leads, iteratively, to further action and the elimination of doubt; and it offers a method for selecting methodological mixes that can help researchers better answer many of their research questions. (p.17)

Mixed methods was, therefore, an appropriate research tool to address gaps in knowledge and understand the complexities of wellbeing using a variety of data sources and analyses. The research design directly addresses the lack of mixed methods studies in the wellbeing literature, identified as a limitation of modern wellbeing research (Hefferon et al., 2017). The quantitative study addressed the lack of knowledge about what workers experience as wellbeing in different occupational groups. The subsequent qualitative study generated new knowledge about how responders experience wellbeing in the context of the emergency services.

In the following section, mixed methods research is defined and some of the common reasons for adopting a mixed methods approach to research are considered. The section then illustrates the specific criteria used to select the mixed methods design for this study.

4.3.2 Mixed methods research

There are benefits to using pluralistic approaches to derive knowledge about a research problem, especially in the social sciences (Teddlie & Tashakkori, 2009). The use of both qualitative and quantitative methods in one study can overcome the limitations of each approach and add strength to the research study (Creswell, 2014). Creswell (2014) defined mixed methods research as:

> An approach to inquiry involving collecting both quantitative and qualitative data, integrating the two forms of data, and using distinct designs that may involve philosophical assumptions and theoretical frameworks. The core assumption of this form of inquiry is that the combination of qualitative and quantitative approaches provides a more complete understanding of a research problem than either approach alone. (p. 4)

The reasons for using a mixed methods methodology vary among researchers and depend on the nature of the research (Greene, Caracelli, & Graham, 1989). In a study of 57 mixed methods studies, Green et al. (1989) identified five distinct purposes for mixed methods research: triangulation, complementarity, development, initiation, and expansion.

The purpose of triangulation is to use different methods to source data that can corroborate findings. For example, a qualitative interview might be used to corroborate the findings from a quantitative questionnaire on the same topic (Green et al., 1989). The complementary mixed methods study seeks clarification, enhancement, or illustration of findings from one method with the findings of another method. For instance, a qualitative interview might be used to investigate a finding from a quantitative study. A mixed methods study with a developmental goal seeks to use the results from one method to help develop or inform the other method, such as qualitative data informing the development of a quantitative survey. An initiation study investigates contradictions between qualitative and quantitative data to understand why such inconsistencies

occur. An expansion study analyses the results of a quantitative and qualitative study from different perspectives, looking for contradictions in the study findings to arrive at new insight and understanding of a phenomenon. Investigating inconsistencies between quantitative and qualitative data related to a specific intervention would be one example of an expansion study.

The purpose of the current mixed methods study was complementary and developmental, and is explored more fully in the following section. This section also outlines the criteria used to select the mixed methods design of this study.

4.3.3 Mixed methods design

Different typologies exist for classifying mixed methods designs within the literature (Creswell & Plano Clark, 2011; Nastasi, Hitchcock, & Brown, 2010; Teddlie & Tashakkori, 2009). Teddlie and Tashakkori (2009) addressed the main criteria that are used to inform mixed methods designs in most studies. Table 2 was adapted from Teddlie and Tashakkori (2009, p. 141) to illustrate the criteria used in this study to select the appropriate mixed methods design.

Table 2

Criteria Used to Select the Mixed Methods Design in This Thesis

Criteria	What design questions does this criterion answer?	What possible values for the criterion exist?	What value is used in the current study?
1. Number of methodological approaches	One method (QUAN or QUAL*) or both (QUAN + QUAL)	- Monomethods, or - Mixed methods study	Mixed methods
2. Number of strands or phases	One or multiple phases	- Monostrand - Multistrand	Multistrand
3. Type of implementation process	Will the QUAN and QUAL occur sequentially or in a parallel manner? Will data conversion apply? Will QUAN and QUAL data be gathered at different levels of analysis?	- Parallel - Sequential - Conversion - Multilevel - Combination	Sequential
4. Stages of integration of approaches	Will the study be mixed in the experiential stage only, or across stages?	- Across all stages - Within experiential stage only - Other variant	Across all stages
5. Priority of methodological approach	Does the QUAN or QUAL approach have priority, or are they of equal importance, at the outset of the study?	QUAN priority QUAL priority Equal priority	Equal priority
6. Functions of the research study	Which functions does the research design serve?	- Triangulation - Complementary - Development - Initiation - Expansion - Other functions	Complementary/ Development
7. Theoretical or ideological perspective	Will the design be driven by a particular theoretical or ideological perspective?	Some variant of the transformative perspective or other perspective No theoretical or ideological perspective	Pragmatism

Key: *Morse's (2003) notation system for mixed methods research has been adopted in this table. QUAN stands for quantitative and QUAL stands for qualitative.

Teddlie and Tashakkori (2009) proposed five families of mixed methods designs that vary depending on the first four criteria listed in Table 2. According to Teddlie and Tashakkori (2009), the last three criteria are not necessary to decide on a mixed methods design. However, as other researchers use the criteria in mixed methods research, they have also been used in this

thesis. The above criteria were used to select the mixed methods design in the current study. According to Teddlie and Tashakkori's (2009) criteria:

1. The current study is a mixed methods methodology, incorporating both quantitative and qualitative elements.
2. The study is multistrand because mixing occurred during the conceptualisation stage (theoretical foundations, research purpose, research questions); the experiential stage (data collection and analysis methods); and the inferential stage (data interpretation, application; Nastasi, Hitchcock, & Brown, 2010).
3. The study is a sequential design as data were collected sequentially. The findings from the quantitative study were used to inform the second qualitative study. The qualitative study aimed to explain the quantitative findings.
4. The fourth criterion was met as mixing occurred across all stages of the study.
5. The fifth criterion relates to the priority of the methodological approach, which in this study was equal. The quantitative study and the qualitative study hold equal importance for addressing the research aims and objectives. The findings of each study are compared and synthesised in chapter eight.
6. The sixth criterion relates to the purpose of the research study. The current study was complementary in that the qualitative study aimed to clarify and enhance the findings from the quantitative study. As the quantitative findings were also used to determine the qualitative study methods, the purpose of the mixed methods study is also considered to be developmental.
7. The seventh criterion relates to the philosophy underpinning the research design. A pragmatist philosophy determined the current study's design.

Based on the criteria presented in Table 2, the current study is a sequential mixed design. Teddlie and Tashakkori (2009) stated that in the sequential mixed design "mixing occurs across chronological phases ... of the study, questions or procedures of one strand emerge from or depend on the previous strand, and research questions are related to one another and may evolve as the study unfolds" (p. 151).

In this thesis, the quantitative study included secondary data from an online survey. Secondary data come from a different research program, with purposes other than those of the present study (Tripathy, 2013). Researchers use secondary data in two different ways (Cheng & Phillips, 2014). In the first instance, a researcher has an a priori hypothesis or question in mind, and looks for a suitable data set to address the question (Cheng & Phillips, 2014). In the second instance, a researcher does not have a research question in mind and uses the data set to decide on what kind of questions can be answered by the available data (Cheng & Phillips, 2014). In the context of the current study, the data set was used to answer a specific research question, which was used to determine the next study in this thesis. The qualitative study used grounded theory (GT) methods to clarify and expand upon the quantitative findings. As there are several different variants of GT, the next section provides a brief background to GT and why the current study used Charmaz's (2014) variant.

GT was created by Barney Glaser and Anselm Strauss in the 1960s to provide an alternative to the hypothetico-deductive approach in sociology research. Glaser and Strauss (1967) criticised the overemphasis on the verification of theory and underemphasis on discovering what concepts and hypotheses are relevant for the research topic. Glaser and Strauss (1967) proposed a new method to 'discover' theory from data systematically obtained from social research. Glaser (1992) defined GT as "a general methodology of analysis linked with data collection that uses a systematically applied set of methods to generate an inductive theory about a substantive area" (p. 16).

Since the publication of Glaser and Strauss's (1967) seminal book *The Discovery of Grounded Theory*, researchers have developed other variants of GT. Each variant has a different epistemological underpinning, and therefore uses differing methods. However, irrespective of the divergent epistemological perspectives, all variants of GT have common elements. GT researchers use specific methods to create an explanatory theory that is grounded in data (Charmaz, 2014). The methods are used to develop an in-depth understanding of a phenomenon about which little is known and in which the focus is on the participants' experiences (Ward, Gott, & Hoare, 2017a). Since there is little evidence at the outset of a GT study to form a hypothesis, GT studies work upward from the data to generate new theories (Birks & Mills, 2015).

While Glaser's (1992) definition of GT above unites all variants of GT, the point of departure from Glaser and Strauss's (1967) original conception of GT resides in epistemology and method. Classical GT is underpinned by an objectivist epistemology (Glaser, 1992). Researchers are thought to approach their studies as a *tabula rasa*, or blank slate. Empirical data analysis enables classical GT researchers to discover a core category and related concepts within the data. The focus of classical GT is on discovering a reality that is not influenced by the researcher. In the 1980s Strauss spilt with Glaser whilst working at the Chicago School of Sociology (Birks & Mills, 2015). Strauss explored social interaction based on Blumer and Mead's prior theoretical generation of symbolic interactionism's development (Bryant, 2009). Strauss joined with Corbin to wrestle with the methodological issues of how symbolic interaction coupled with pragmatism, could be key elements in a grounded theory (Birks & Mills, 2015). The symbolic interactionist themes of meaning and the concepts of action, interaction, self, and perspectives all feature in Corbin and Strauss' (2008) interpretation of GT, which methodologically accounts for how human action plays a role in problematic situations (Stern & Porr, 2017). The influences of cause, context, condition, and consequence provides a theoretical perspective of symbolic interactionism on human behaviour in particular contexts. Charmaz (2014) adopted a social constructivist epistemology in her version of GT. Charmaz's (2014) variant of GT is considered the best way to research first responder wellbeing for reasons described below.

Charmaz's (2006, 2014) constructivist GT adopted earlier GT strategies but differs from its predecessors in several ways. Charmaz (2006, 2014) assumed a social constructivist stance to acknowledge the multiple standpoints of the researcher and participants. In constructivist GT, Charmaz (2014) recognised that "research acts are not given; they are constructed" (p. 13). The researcher seeks to understand the meanings that people form in the context of their social, cultural, and historical settings, and how this influences their actions (Charmaz, 2014). The characteristics of constructivist GT allow researchers to study phenomena in natural environments in a way that explicates social processes and produces a substantive theory to explain behaviour (Charmaz, 2006, 2014). Constructivist GT views people as taking an active role in responding to the events and problems encountered in their lives.

Charmaz's (2014) variant of GT was selected for two reasons. Firstly, the study aimed to understand how first responders themselves defined wellbeing, and what processes they used to overcome problems in their lives to maintain their version of wellbeing. Secondly, as I have worked with first responders for most of my career, am married to a first responder, and have friends who are first responders, I acknowledge that I have significant experience and knowledge in the research topic. I believe that I am as much a part of this research as the participants are. Therefore, the research findings have been co-constructed in this qualitative study, as opposed to 'discovered'. According to Charmaz (2014), viewing the research as "constructed rather than discovered fosters researchers' reflexivity about their actions and decisions" (p. 13). The researcher is as much a part of a GT study as the participants, and so reflexivity is an integral part of a constructivist GT study. Reflexivity provides a way to understand how the researcher's positions, privileges, perspective, and interactions influence the research process (Charmaz, 2014). As reflexivity is an essential component of constructivist GT methods, the following section provides additional evidence of reflexivity.

4.4 Rigour in this mixed methods methodology study

The credibility of research outcomes depends on how rigorous the researcher has been throughout the entire process (Birks & Mills, 2015; Finlay & Gough, 2003). Reflexivity was an essential tool used to provide rigour in the current mixed methods study. This section describes my stance as the researcher in this thesis. An overview of the concept of reflexivity is provided before the specific forms of reflexivity used in this mixed methods methodology study are illustrated. The particular criteria used to evaluate rigour in the mixed methods, quantitative, and qualitative studies, are discussed in the following chapter.

Although reflexivity is a defining feature of qualitative research, quantitative and mixed methods researchers have not typically used reflexivity as a research tool (Gough, 2003). Qualitative researchers accept that they are part of their research studies and they use their experience as "a springboard for interpretations and more general insight" (Finlay, 2003, p. 8). In qualitative studies, reflexivity is used to ensure rigour (Jootun, McGhee, & Campus, 2009). Alternatively, quantitative researchers are thought to be neutral and objective, making them independent of the research study (Gough, 2003). In quantitative research, reflexivity is replaced by a controlled

research environment, which is thought to minimise bias (L. Ryan & Golden, 2006; Walker, Read, & Priest, 2013). However, L. Ryan and Golden (2006) reported that reflexivity is a valuable tool to add insight into the complex dynamics that exist in quantitative research. In line with the growing popularity of mixed methods research, reflexivity is also becoming favoured by mixed methods researchers (Cheek, Lipschitz, Abrams, Vago, & Nakamura, 2015; Walker et al., 2013). Mixed methods researchers use reflexivity to maintain an audit trail of decisions made during the research process and to promote rigour in their methodology (Cheek et al., 2015; L. Ryan & Golden, 2006; Walker et al., 2013).

Scholars argue that reflexivity is an integral part of the research process and as such research outputs should evidence and detail the use of reflexivity (Gough, 2003, 2016; Morse, 2008). In this thesis, evidence of reflexivity is also used to meet the first criterion for evaluating rigour in mixed methods research: "describe the justification for using a mixed methods approach to the research question" (O'Cathain et al., 2008, p. 97). The Good Reporting of a Mixed Methods Study (GRAMMS) guidelines are presented in the following chapter (Brown, Elliott, Leatherdale, & Robertson-Wilson, 2015; O'Cathain et al., 2008).

Reflexivity is given robust attention in this thesis for the reasons outlined above. There are various definitions and approaches to reflexivity (Berger, 2015; Birks & Mills, 2015; Charmaz, 2014; Finlay & Gough, 2003; Morse, 2008; S. Wilkinson, 1988). In this study, S. Wilkinson's (1988) personal, functional, and disciplinary forms of reflexivity are used to demonstrate how I adopted a reflexive stance to this mixed methods research. S. Wilkinson's (1988) criteria are outlined below in the context of the current research program.

Personal reflexivity

Personal reflexivity requires that researchers reflect on how their individual preferences, motivations, interests, and attitudes have influenced the research process (S. Wilkinson, 1988). In keeping with personal reflexivity, I refer to my background as a psychologist. For over 15 years I worked as a psychologist with hundreds of different organisations, which included work with the Australian Defence Force and the emergency services. Much of my work involved providing targeted psychosocial interventions following potentially traumatic events.

As a trauma psychologist, I helped care for people at one of the most vulnerable times in their lives. Table 3 presents two scenarios typical of those reported to me as a trauma psychologist working with first responders. The names used in the following scenarios are pseudonyms.

Table 3

The Stories of First Responders

Adam's story	Steve's story
Adam was having one of those days. Sometimes in the emergency services there is a period when harrowing jobs come in one after the other. First responders jokingly believe that these days happen because of a full moon. Adam had attended some of the worst jobs he had ever attended in his 8-year career, all in the space of a 12-hour shift. There was no time to eat, take a breath or even make it to the bathroom. He finally returned to the station exhausted. He breathed a sigh of relief and commented to his boss about his day. His boss replied, "If you can't stand the heat, get out of the kitchen". This one comment changed the entire experience of the day for Adam. The day bore down heavier on his shoulders, drained his energy further and his coping reduced. Unfortunately for Adam, comments like these had become a regular part of his workday. Adam said that his boss's comments made him feel worse than his workday did.	Steve had an equally horrendous day, but returned to his station where his boss found him and said, "I heard you guys have been smashed today. Sit down, and let me make you a cup of tea". The acknowledgement, compassion, and support freely offered by his boss also changed the experience for this paramedic. Steve's energy was increased, his problems halved, and his coping increased. I only spoke to Steve because his boss had asked me to contact him. He wanted to make sure that he was OK after the day he had had. Steve was fine, in my mind, primarily because of the support and compassion of his boss.

My personal experiences as a psychologist, and now while researching wellbeing, have formed my belief that people are inextricably linked with each other, and the environment. People do not exist in a vacuum of time, context, or culture; they are bound by the systems in which they live and work. To that end, I believe in the existence of an external material world, as well as the emergent psychological and social world. In my mind people construct and reconstruct reality as they gain experiences and interact with the world around them. My ontology fits with a subtle realist perspective of reality and my epistemological beliefs align with pragmatism.

My prior experiences and worldview determined the choice of study and the research process. For example, through my experience working in the emergency services, I came to understand that first responder wellbeing was, by and large, approached from a deficit perspective. The lack of understanding about how first responders flourish in their work influenced my decision to conduct a narrative literature review. The literature review allowed me to investigate positive wellbeing in the emergency services. In turn, I interpreted the wellbeing literature from a particular perspective. I noticed a gap in knowledge about what people experience as wellbeing in different occupational contexts, and how first responders experience wellbeing in the emergency services. The finding precipitated the mixed methods study. Researchers with different experiences may not have interpreted the literature in the same way and therefore may have chosen a different way to research wellbeing.

My experiences also influenced how I engaged with the quantitative and qualitative data. In the quantitative study, I chose to address what I perceived to be gaps in knowledge within the occupational wellbeing literature. My personal experiences as a psychologist led me to believe that people do not experience wellbeing in the same way. I purposefully chose a quantitative study to test the hypothesis that people working in different occupations experience wellbeing differently. I interpreted the findings and chose how to contextualise the findings in existing knowledge. The quantitative study was then used to justify the qualitative study. My prior background and experiences also influenced how I interpreted the qualitative data. During the first data collection and analysis event in the qualitative study, I used reflexivity to acknowledge that I was interpreting the data as a psychologist and not as a researcher. By using a reflexive tool known as memoing (as depicted in Appendix C.1) I was able to disengage with the qualitative study as a psychologist, and re-engage with the data as a researcher (Charmaz, 2014). However, I did not dismiss my experiences as a psychologist. Instead, reflexivity and GT methods allowed me to use my experiences to enhance theoretical sensitivity in the qualitative study.

Functional reflexivity

S. Wilkinson (1988) also referred to functional reflexivity, which relates to the different identities of the researcher, and the interaction between the researcher and participants. Concerns about the distribution of power and status in research led S. Wilkinson (1988) to encourage functional reflexivity. As a way of monitoring myself in the research process, I participated in a reflexive interview. Reflexive interviews are a recommended way to become aware of one's interests and presuppositions in the research process (Bolam, Gleeson, & Murphy, 2003). Dr Kim Ward, Auckland University, a researcher experienced in reflexivity, conducted the interview. The interview uncovered a number of my presuppositions as a trauma psychologist and wellbeing consultant. As indicated in Appendix C.2, the reflexive interview enabled me to distance myself from the wellbeing expert role and consider how people define and experience wellbeing themselves.

Functional reflexivity was also used to ensure that I engaged with the quantitative and qualitative study ethically. In the quantitative study, functional reflexivity was used to engage with the secondary data set ethically. In the qualitative study, functional reflexivity was used to engage with participants ethically. The next chapter outlines the ethical considerations for this study.

Disciplinary reflexivity

S. Wilkinson (1988) referred to disciplinary reflexivity, which involves considering the research program within broader debates about theory and method. Disciplinary reflexivity encourages a critical appraisal and delineation of existing concepts and traditions that have shaped extant research, and a discussion on the potential contribution of the new research to the literature under investigation (Gough, 2003; S. Wilkinson, 1988). In the current thesis, chapters three and four demonstrate that I have critically examined the wellbeing literature. Chapters two and three

describe the different conceptualisations of wellbeing and the research underpinning these conceptualisations. The chapters debate how dominant quantitative methodologies have influenced current models of wellbeing in the positive psychology and occupational wellbeing fields. I have explained why a pragmatist paradigm and mixed methods methodology was selected to research wellbeing. In chapters eight and nine I demonstrate how the research has contributed to the literature, which is further evidence of disciplinary reflexivity. Table 1 provides an overview of each chapter in the thesis.

In summary, as evidenced by the above accounts, I approached this mixed methods study with reflexivity. By adopting a reflexive stance in the current research, I have positioned myself as a research tool, rather than a source of potential bias. The following chapter presents the criteria used to establish rigour in the mixed methods study.

4.5 Chapter summary

The previous sections of this chapter have described why the pragmatist paradigm has been chosen to guide this thesis. The mixed methods methodology has been explained and situated within a pragmatist epistemology. Wilkinson's (1988) personal, functional, and disciplinary forms of reflexivity were used to evidence rigour in this mixed methods research. The specific design of this mixed methods methodology study was outlined in this chapter. Mixed methods convention requires that each study be conducted independently in accordance with their respective research traditions (Teddlie & Tashakkori, 2009). To that end, the quantitative and qualitative research methods are reported separately in the following chapter.

Chapter 5. Research methods

The previous chapter presented the philosophy and methodology that guided this research program. Chapter five now addresses the practical component of the thesis. The chapter begins by discussing the ethical considerations for quantitative and qualitative study. The chapter then outlines the data collection and analysis for the quantitative study and then the qualitative study. Chapter five concludes by providing evidence of rigour for the mixed methods study, the quantitative study, and the qualitative study.

5.1 Ethical considerations

Ethics approval protects the interests of the participant. The ethical considerations were treated separately for the quantitative and qualitative studies. This section first presents the ethical considerations for the quantitative study, and then for the qualitative study.

5.1.1 Ethical considerations for the quantitative study

An online (internet) wellbeing survey provided pre-existing data for the quantitative study. The next section presents details of the pre-existing data. The Auckland University of Technology Ethics Committee gave ethical approval for the study in 2015, as shown in Appendix D.1. Dr Aaron Jarden, one of the lead investigators of the survey, also provided me with permission to use the secondary data set, as evidenced in Appendix D.2.

Ethics must be taken into consideration when using secondary data (Corti, Van den Eynden, Bishop, & Woollard, 2014; Tripathy, 2013). Cheng and Phillips (2014) and Tripathy (2013) illustrated how secondary data can be used ethically by addressing key criteria. In this study I addressed each criterion. Firstly, the data set was de-identified, and the outcomes of the analysis did not allow re-identifying participants. Secondly, the secondary data were used to answer questions about wellbeing, which is consistent with the original purpose of the survey. Thirdly, Dr Jarden provided a comprehensive overview of the secondary data set, as shown in Appendix D.3. The overview included detailed descriptions of the population under study, the sampling strategy, the time frame of data collection, assessment tools, response levels, and quality control measures. Dr Jarden was a supervisor at the time of the secondary data analysis, and he co-authored the article that includes the secondary data. Therefore, sufficient information was provided to assess the internal and external validity of the data set and to ensure it was free from errors. Fourthly, I deleted the secondary data from my personal computer when the study concluded. Overall, these measures provide assurance that the secondary data set was treated ethically in the current research.

5.1.2 Ethical considerations for the qualitative study

It was not the intention of this thesis to investigate Māori wellbeing independently. However, given the research was conducted primarily in New Zealand, I considered the principles of the Treaty of Waitangi. The Treaty of Waitangi is New Zealand's founding document and was the

initial agreement that established British authority over New Zealand (Ministry for Culture and Heritage, n.d.). The Ministry of Health (2006) gives clear guidelines about the requirements of researchers to consider the Treaty of Waitangi before conducting any research in New Zealand. The factors that dictate the need for addressing the principles of the Treaty include any research that involves tangata Māori (Pūtaiora Writing Group, n.d.), any research that can make a contribution towards addressing inequalities between Māori and European New Zealanders (Hudson & Russell, 2009), and any research carried out in the field of health and disability (Ministry of Health, 2006). In the current research program I was not required to consider the principles of the Treaty *formally* as participants were not selected by race, or by any other specific cultural or social group, other than being a first responder. Inclusion criteria for the qualitative study were first responders who had worked operationally in New South Wales Ambulance, New Zealand Police, St John Ambulance in New Zealand, or New Zealand Fire Service for a minimum of five years.

In consultation with ethics committees, I used existing professional associates within the emergency services to begin recruitment. Initially, I sent three emails to my existing professional contacts. The participants were selected because they were aware of my PhD topic and had previously expressed to me an interest in participating in the study. The participants met the inclusion criteria and had experiences relevant to the purpose of the qualitative study.

A duty of care was taken to minimise coercion by ensuring that all potential participants could refuse or withdraw from participation at any time. All potential participants were emailed an information sheet and a written consent document to sign on choosing to participate. The email stated that involvement was voluntary, contingent upon a personal desire to participate, and non-participation would not adversely affect me or the research in any way. Potential participants were instructed to email or phone me as the researcher if they wanted to participate or ask questions about the research. All participants contacted me and indicated that they wanted to participate in the study (n = 25). Consent was reconfirmed at each contact point to protect participants' rights and allow them to reconsider their involvement. Participants could choose where they wanted to be interviewed as an additional duty of care measure. The participants were offered a choice of my home office, their home, or their work office (my home office n = 18 and an office n = 1). To ensure safety, face-to-face interviews in my home office were conducted with my husband in another part of the house. Skype interviews were offered to, and accepted by, participants who lived more than 150 km away from my residence (n = 6). All participants were made aware of the psychological support available to them after each interview. The psychological support included access to an Employee Assistance Provider. Participants all received the contact details for the Employee Assistance Provider for their organisation.

The participant information sheet and written consent document used in the qualitative study are included in Appendix E.5. The documents include information about the confidential nature of the data collected and its secure storage. All data (audio-recordings, interview transcripts, and

research notes) were stored on my password-protected computer or in a locked filing cabinet. Several steps were taken to protect participants' identity. Participant names were replaced with a participant number (e.g., participant one) and used throughout the research process, including the reporting of findings. The list of participants and their corresponding number was kept on my password-protected computer. I was the only person to have access to this information. Participants were not referred to by name on any transcript or my notes. In the findings section, care was taken not to reveal any identifying information about participants, including rank or position in the emergency services, geographical location, or any personally identifying information.

As noted in the previous section on rigour (section 4.4), I used functional reflexivity to ensure that I engaged ethically with participants in the qualitative study. Disclosing to participants my reasons for conducting the qualitative study, and the fact that I had experience working with first responders as a psychologist, enabled me to establish rapport and trust with each participant. Participants gained a sense that I was genuinely interested in their wellbeing, and them as a person, rather than only as a participant in a study. Some participants said that they revealed stories to me for the first time during the interview, which I interpreted as evidence that I had established rapport and trust with participants.

Additional duty of care measures included refreshments for each participant and the opportunities to take a break during interviews. The interview started with informal small talk as a way of building trust and rapport. Participants were encouraged to ask questions or indicate if they did not understand any of my questions. I explained the nature of semi-structured interviews to each participant and provided a general guide to the interview process. I concluded each interview with a summary of the discussion and provided each participant with the opportunity to ask questions and clarify information. I returned to informal small talk with each participant as a way of concluding the interview and preparing participants to re-engage with their day-to-day tasks.

At the completion of the study all participants will receive a lay summary of the findings and a copy of pertinent published work from this study. Additionally, all emergency service organisations from which the participants were recruited will receive a summary report. Findings from this study have been, and will continue to be, disseminated in peer-reviewed social sciences journals and will be circulated locally through other appropriate publications and conference presentations.

The following institutions granted ethical approval for the qualitative study:

1. Auckland University of Technology Ethics Committee in 2015, see Appendix E.1.
2. New South Wales Ambulance Service, Australia in 2016, see Appendix E.2.
3. New Zealand Police in 2016, see Appendix E.3.
4. St John Ambulance, New Zealand 2015, see Appendix E.4.

5.2 Implementing the quantitative study

Pre-existing data were used to investigate factors that were associated with high levels of wellbeing, flourishing and job satisfaction, for people who worked in different occupational cohorts. Details of the pre-existing data are provided in the next section, including participant recruitment and sampling, data collection, and data analysis, as well as in chapter six. Chapter six contains a manuscript that has been published. I included the methods section in chapter six as a way of maintaining continuity in the published article.

The data were collected via an online (internet) survey. Online surveys offer many advantages. Menon (2002) provided a comprehensive overview of the advantages of using online surveys, including the recruitment of large sample sizes and hard-to-reach populations, increased representativeness, and enhanced confidentiality and anonymity. Research shows that respondents completing surveys online are less likely to provide socially favourable responses than paper-based or telephone survey respondents (Menon, 2002; Richman, Kiesler, Weisband, & Drasgow, 1999). Online surveys are often a quick and inexpensive way to collect data (Cobanoglu, Moreo, & Warde, 2001; Leem et al., 2017). In the wellbeing field, online surveys are commonly used to investigate and measure wellbeing (Huppert & So, 2013; Keyes, 2005).

5.2.1 Participant recruitment and sampling

In 2012, the New Zealand office of Kantar TNS Global, an international market research company, collected data for the Sovereign Wellbeing Index (SWI) on behalf of Dr Jarden (Hamling et al., 2015). In the first of three waves (September to October 2012), a total of 38,439 invitations were sent to a random selection of approximately 400,000 members; the completion rate was 26% (N = 9,962). Participants who completed the 2012 survey were invited to participate in the second wave, in 2014, for which the completion rate was 44% (n = 4,435). Additional invitations were then sent to 53,628 new panel members, who did not participate in 2012. Of these invitations, a total of 5,577 adults participated (10%), and of those that responded to the survey invitation, 88% completed the survey (n = 11,426).

Similar to wave one, the sampling strategy for wave two was stratified against the 2006 New Zealand Census values. Sample characteristics of both wave one and wave two closely aligned with the New Zealand Census and were representative of the New Zealand population. All panel members aged over 18 were eligible. As the focus of this study is on how people in different occupational groups experience wellbeing, statistical analysis included a reduced sample of only those participants in paid employment (N = 5,126). Therefore, for this study, inclusion criteria were participants aged over 18 years in paid employment. No exclusion criteria were applied. Table 4 shows the demographic characteristics of participants in paid employment included in the current study.

Table 4

Demographic Characteristics of Workers in the 2014 Wave of the Sovereign Wellbeing Index

Occupation	*N*	%	Age	Gender %	Ethnicity European %	Ethnicity Māori %	Ethnicity Asian %
Manager	702	13.5	*M* = 43.85 *SD* = 12.31	M 60.5 F 39.5	73.4	11.8	13.4
Professional	1524	29.3	*M* = 40.52 *SD* = 12.44	M 49.3 F 50.7	69.1	7.7	21.0
Technician or Trade Worker	575	11.0	*M* = 43.23 *SD* = 13.11	M 79.8 F 20.2	72.2	11.3	14.8
Community or Personal Service Worker	363	7.0	*M* = 44.96 *SD* = 12.73	M 26.8 F 73.2	77.1	14.9	7.4
Clerical or Admin. Worker	944	18.1	*M* = 41.69 *SD* = 12.05	M 25.4 F 74.6	73.5	13.0	12.1
Sales Worker	478	9.2	*M* = 39.09 *SD* = 14.56	M 43.9 F 56.1	74.5	10.9	13.6
Machinery Operator or Driver	229	4.4	*M* = 46.94 *SD* = 13.03	M 86.9 F 13.1	72.1	18.3	8.7
Labourer	395	7.6	*M* = 40.88 *SD* = 13.74	M 61.9 F 38.1	74.9	14.2	8.9
Total	5210	100.0	*M = 41.98* *SD* = 12.93	50.4 M 49.6 F	72.0	13.0	13.0

5.2.2 Data collection

The quantitative study was published in the *New Zealand Journal of Human Resource Management* in 2015 (Hamling et al., 2015). A version of the article has been used to present findings from the quantitative phase of the study in chapter five. The article retains the methods section in chapter six to maintain continuity in the overall structure of the thesis.

The qualitative study used secondary data from the SWI (Jarden et al., 2013). The SWI (Jarden et al., 2013) is an online survey containing a large range of wellbeing, health, lifestyle, work-related, and socio-demographic variables (total items = 324; see www.mywellbeing.co.nz). It was designed specifically to measure the health and wellbeing of New Zealanders and was

conducted for the first time in 2012 and again in 2014. The current study used data from wave two (2014) of this index. The data were made available for secondary data analysis by one of the lead authors and investigators of the SWI, Dr Aaron Jarden (Jarden et al., 2013).

5.2.3 Measures in the survey

The SWI survey contains validated psychometric scales based mainly on wave six of the European Social Survey Personal and Social Wellbeing module (European Social Survey, 2012). Questions were drawn from a variety of other sources, including the New Zealand Health Survey (Ministry of Health, 2006/07). The SWI also includes items assessing participation in the Five Ways to Wellbeing: Connect, Give, Take Notice, Keep Learning, and Be Active. The New Economics Foundation has identified the five ways to wellbeing as behaviours to improve population wellbeing (Aked, Marks, Cordon, & Thompson, 2009). Three additional scales supplemented the SWI. The first was a Flourishing Scale, a self-reported measure of psychological wellbeing (Diener et al., 2010). The second scale included two questions from the Strengths Knowledge and Strength Use Scales (Govindji & Linley, 2007). The third was from a life domains satisfaction scale (Huppert & So, 2013). The scales have been used to measure wellbeing across 26 European countries (Huppert & So, 2013). Table 5 describes each construct included in the analysis, including the corresponding items and response scales.

Table 5

Questions and Response Scales of the Lifestyle, Health, Psychosocial, Life Satisfaction, and Work-Related Constructs Used

Construct	Question	Response scale
Lifestyle behaviours		
Connect	How often do you meet socially with friends, relatives or work colleagues?	1 = never to 7 = every day
Give	To what extent do you provide help and support to people you are close to when they need it?	0 = not at all, to 6 = completely
Take notice	On a typical day, how often do you take notice and appreciate your surroundings?	0 = never, to 10 = always
Keep learning	To what extent do you learn new things in life?	0 = not at all to, 6 = a great deal
Be active	How much time do you spend in physical activity with others?	0 = not at all, to 6 = a great deal
Be active	How much time do you spend in physical activity on your own?	0 = never to, 5 = five days a week
Volunteering	In the past 12 months, how often did you get involved in work for voluntary or charitable organisations?	1 = never to, 6 = at least once a week
Subjective health	How is your health in general?	1 = very bad to, 5 = very good
Psychosocial		
Strengths	I know my strengths well.	1 = strongly disagree to, 5 = strongly agree
Strengths	I always try to use my strengths.	1 = strongly disagree to, 5 = strongly agree
Autonomy	I feel I am free to decide for myself how to live my life.	1 = strongly disagree to, 5 = strongly agree
Engaged	How much of the time would you generally say you are absorbed in what you are doing?	0 = none of the time to, 10 = all of the time
Feeling respected	To what extent do you feel that people treat you with respect?	0 = not at all to, 6 = a great deal

Social support	To what extent do you receive help and support from people you are close to when you need it?	0 = not at all to, 6 = completely
Relationships	How many people are there with whom you can discuss intimate and personal matters?	1 = none to, 7 = 10 or more
Resilience	When things go wrong in my life, it generally takes me a long time to get back to normal.	1 = strongly agree to, 5 = strongly disagree
Resilience	How difficult or easy do you find it to deal with important problems that come up in your life?	0 = extremely difficult to, 10 = extremely easy
Meaning/purpose	I generally feel that what I do in my life is valuable and worthwhile.	1 = strongly disagree to, 5 = strongly agree
Self-esteem	In general I feel very positive about myself.	1 = strongly disagree to, 5 = strongly agree
Work related		
Job satisfaction	All things considered, how satisfied are you with your present job?	0 = extremely dissatisfied to, 10 = extremely satisfied
Work–life balance	All things considered, how satisfied are you with the balance between the time you spend on your paid work and the time you spend on other aspects of your life?	0 = extremely dissatisfied to, 10 = extremely satisfied
Financial security	Which of these descriptions comes closest to how you feel about your household's income nowadays?	1 = finding it very difficult on present income to, 4 = living comfortably on present income
Satisfaction with major life domains	How satisfied are you with each of these aspects in your life? Intimate relationships, Family, Friends, Leisure time, Time on your own, Politics, Work, Education, Religion, Spirituality, and Community Involvement.	0 = extremely dissatisfied to, 10 = extremely satisfied
Diener Flourishing Scale	I lead a purposeful and meaningful life. My social relationships are supportive and rewarding. I am engaged and interested in my daily activities. I actively contribute to the happiness and wellbeing of others. I am competent and capable in the activities that are important to me. I am a good person and live a good life. I am optimistic about my future. People respect me.	1 = strongly disagree to, 7 = strongly agree

5.2.4 Data analysis

The Statistical Package for the Social Sciences (SPSS) software, version 22, was used to analyse the data. The quantitative data were first analysed to determine whether the eight occupational cohorts had different wellbeing scores. The Shapiro–Wilk test of normality was not appropriate for the preliminary data analysis in this quantitative study because of the large sample size. The Shapiro–Wilk test of normality is only suitable for small samples of less than 2,000 cases (Field, 2013). Therefore, histograms for skewness and kurtosis, and normal Q-Q plots were created to visually inspect the data. The analysis suggested that these variables were negatively skewed. The Levene's F test also revealed that the homogeneity of variance assumption was not met ($p < .001$). Non-parametric tests, Kruskal–Wallis and Mann–Whitney U tests (alpha level of .05) were therefore used to compare the different occupational groups.

Preliminary testing was conducted to ascertain whether a multiple regression could be a suitable way of analysing the data. Multiple regression is useful when a researcher wants to explore the predictive ability of a set of independent variables on one continuous dependent measure (Pallant, 2011). In the current study, a multiple regression would allow me to compare which factors (independent variable) significantly correlated with wellbeing scores (dependent variable) for eight different occupational groups.

To investigate the suitability of the data for a multiple regression, an analysis of standard residuals was first carried out to identify extreme outliers (Tabachnick & Fidell, 2007). A scatterplot graph was generated for each occupation and was used to confirm outliers visually. Fourteen of the 5,216 participants had standardised residual values above about +/− 3.3 and were removed. An examination of correlations revealed that no independent variables were highly correlated, and the collinearity statistics, tolerance and variance inflation factor, were all within accepted limits (Pallant, 2011). The assumption of multicollinearity was deemed to have been met, suggesting that all scales were measuring independent constructs. A significant ($p < .001$) regression equation was found across occupational groups, demonstrating that the items selected for the regression analysis were able to predict a large proportion of the variance in wellbeing scores for each occupation. Therefore, a multiple regression was considered a suitable analytic tool to address the research question in the quantitative study.

In chapter six the results of the data analysis are presented in article format. The main findings were that the eight occupational cohorts had significantly different rates of wellbeing, and each cohort had different factors associated with their wellbeing, except for meaning and purpose. Although the quantitative study revealed that different types of factors were associated with wellbeing in different occupational cohorts, the study did not produce knowledge about how and why these factors were significant. A different method was needed to investigate wellbeing from a more dynamic perspective. In the next study, qualitative methods were used to understand how and why the factors identified in the quantitative study were relevant to first responders' wellbeing.

5.2.5 Section summary

In this section I have presented the data collection and analysis for the quantitative study. I explained the details of the secondary data, which included a summary of the recruitment and sampling for this study, and the measures used to collect data. The statistical techniques used to analyse the quantitative data were also outlined. The following section now outlines the data collection and analysis for the qualitative study.

5.3 Implementing the qualitative study

Constructivist grounded theory (GT) methods were used to investigate first responder wellbeing in this qualitative study (Charmaz, 2014). In this section I describe how I implemented the qualitative data collection and analysis using GT methods. The data collection section includes participant recruitment at the purposive and theoretical sampling stage. The section also describes the semi-structured individual interviews used to collect data. The data analysis section outlines the coding techniques used and the process of elevating raw data from low-level codes to high-level categories.

5.3.1 Data collection

This section details the techniques used for data collection, including participant recruitment, the sampling technique, and the interview process.

5.3.1.1 Participant recruitment and sampling

Participants were eligible to participate in the study if they were, or had been, an operational police officer, firefighter, or paramedic for at least five years in the New South Wales Ambulance in Australia, New Zealand Police, St John Ambulance in New Zealand, or New Zealand Fire Service. No other exclusion criteria applied. In consultation with ethics committees, I used professional contacts within Australian and New Zealand emergency service organisations to approach potential participants. A duty of care was taken to minimise coercion, as described in an earlier section of this chapter on ethical considerations; see section 5.1.2.

In the study I used email to initiate contact with all potential participants. In the email I used an abridged version of the participant information sheet to describe the research topic and introduced myself as the researcher. The email also attached the information sheet and a written consent document, as shown in Appendix E.5. Potential participants were instructed to email or phone me if they were interested in participating in the study or had any questions about the research.

The study began with purposive sampling, which involved selecting participants most relevant to the topic of study (Charmaz, 2014). Three emails were initially sent to my existing professional contacts. The participants met the inclusion criteria and had wide-ranging experiences that were relevant to the research question. Following receipt of the email, all participants contacted me wanting to participate in the study (n = 3). A suitable time and place to conduct the interview

was negotiated with participants. I allocated two weeks for data collection and analysis for each participant.

Data collection, therefore, started with the first interview. After I constructed initial codes from the first interview, I began to develop the codes using theoretical sampling (Birks & Mills, 2015; Charmaz, 2014). According to Birks and Mills (2015), theoretical sampling should begin after the researcher collects the first data. Theoretical sampling involves the GT researcher exploring initial codes to decide whom they should interview next and what questions they should ask. Theoretical sampling involves gathering more information for saturating codes and categories constructed from ongoing data analysis (Charmaz, 2014). The following memo, written after I conducted the first interview, illustrates why I explored the concept of *making a difference* with additional questions. Early codes included wanting to *make a difference*, *lacking external markers of success*, and *encountering barriers.* These codes prompted an exploration of what was preventing participants from feeling like they had *made a difference*. Table 6 contains the memo that contributed to a first subcategory titled *responding to barriers.*

Table 6

A Memo That Contributed to the First Subcategory titled Responding to Barriers

10 April 2016: Memo—Thoughts on "making a difference"
P1 was especially focused on making a difference: *When I've made a difference in someone's life, well I suppose this is good for my ego. I'll give you an example. An old man with Parkinson's disease was taken out of his nursing home very late at night. He was shaking and the staff decided he needed to go to hospital. [...] This was all very distressing for him and his family. [...] I communicated with the family exactly what was happening and guided them through the stressful situation. [...] The family asked if they could hug me as we parted ways, and that felt fantastic. It made me feel that I had made a difference and did something good in my day.* *Is P1's self-worth tied up with making a difference in someone else's life? Feeling good by making a difference to others is probably related to her self-esteem, but I think it is through the pathway of competence. She talks later in the interview about wellbeing coming from having sufficient tools and resources to deal with everyday issues. Feeling competent runs throughout P1's interview, but it always seems to be tied in with her wanting to make a difference.* *However, what exactly is making a difference, and how do first responders know when they have made a difference? Do the first responders need some form of feedback to know that they have made a difference, and how do first responders get this feedback? I suppose it would be easy to know that you have made a difference when you save a life, but does this happen frequently? Despite making a difference being important to*

participants, I don't have a sense of how, when, why, or even if, this relates to their wellbeing.

Also, what happens when first responders feel that they cannot, or are not, making a difference, what do they do about it? What are the consequences of not being able to make a difference to their wellbeing? How do first responders feel when they are not making a difference? How does this affect their wellbeing, and what do they do about it? I need to ask future participants, "what does making a difference mean to you?" How do you know when you've made a difference? What stops you from feeling like you've made a difference? What do you do then?

The recruitment of additional participants took place during theoretical sampling (*n* = 22). I asked my existing professional contacts to identify potential participants who had experiences relevant to the developing codes and categories. I emailed potential participants information about the study, including the information sheet and written consent document, and asked them to contact me if they were interested in participating in the study. Section 5.2.2 describes the ethical considerations of me recruiting participants in this way. Participant sampling is interwoven with data analysis in GT (Charmaz, 2014). Both sampling and analysis continue until codes and categories are theoretically saturated (Birks & Mills, 2015). According to Charmaz (2014), theoretical saturation happens when new data reveal no additional properties or further theoretical insights about the categories in the developing GT. The researcher can stop data collection when the categories are saturated. The data analysis section of this chapter provides further detail regarding theoretical saturation.

Theoretical sampling and saturation, therefore, determined the final participant sample. In total, 25 participants were included in this study (police officers *n* = 10, paramedics *n* = 7, firefighters *n* = 3, psychologists *n* = 3, police chaplain *n* = 1, and ambulance chaplain *n* = 1). Table 7 provides the demographic characteristics of the first responders (*n* = 20) interviewed.

Table 7

Demographic Characteristics of the First Responder Study Sample

Demographics at time of interview		Number of participants
Age band	25–35	2
	36–55	15
	56–65	3
Nationality	New Zealand	15
	Australia	5
Gender	Male	12
	Female	8
Length of service	5–10 years	6
	11–20 years	6
	21–30 years	8

5.3.1.2 The interview process

Interviewing is one of the most common methods to collect data in qualitative and GT research (Charmaz, 2014; Gubrium & Holstein, 2002). In the current study, I chose a semi-structured interview to collect data. A semi-structured interview style enabled me to cover general topics with study participants but also allowed participants the freedom to decide what to talk about, how much to say, and how to express it (Drever, 1995). As little data existed on first responder wellbeing at the time of the study, semi-structured interviews provided a way to explore wellbeing from the individual perspective of first responders (Hamling & Jarden, 2016).

In this study, four broad interview questions were prepared in advance and used as an interview guide (D. Cohen & Crabtree, 2006). These included:

- What does wellbeing mean to you?
- What is happening for you when you feel well?
- What sorts of things take away from your sense of wellbeing?
- How do you know when you are well?

Semi-structured interviews also provide researchers with the flexibility to depart from the interview guide to follow new lines of inquiry with participants (D. Cohen & Crabtree, 2006). Therefore, this style of interview allowed me to identify new ways of seeing and understanding first responder wellbeing from their perspective (D. Cohen & Crabtree, 2006). As interviews progressed, I added new questions to explore new concepts and develop category construction (Birks & Mills, 2015; Charmaz, 2014).

Overall, I used three types of questions in the semi-structured interviews: main questions, follow-up questions and probing questions. The main questions were presented above. The

follow-up questions were designed to develop codes and categories, and ensure that theoretical saturation had been achieved. Examples of follow-up questions included:

- What does making a difference mean to you?
    - What stops you from feeling like you've made a difference?
    - What do you do then?
- What helps you to feel like you are achieving your why?
- How do you define success?
    - What does success look like for you?
- Working with good people has been said to me in almost every interview—why is working with good people important to you?

Probing questions were used to encourage participants to elaborate on a particular point of discussion and to clarify information that I did not understand. The types of probing questions used in this study included:

- What do you mean by "filling your bucket"?
- So it's not feeling hopeless and helpless, it's about feeling resourceful [...]—can you expand on that?
- Can I just check that I've understood you correctly… *(paraphrase participant).*

Participants provided permission for the interviews to be recorded and transcribed by consenting to participate in the study; see the written consent document in Appendix E.5. The digitally recorded interviews were between 90 and 120 minutes. The following section outlines the stages of coding involved in this GT study.

5.3.2 Data analysis

The following section details the techniques used for data analysis, including transcribing, initial coding, and focused coding. Techniques used to aid data analysis in GT studies, including memoing and diagramming, are also included in this section (Birks & Mills, 2015).

5.3.2.1 Transcribing the interview data

After each interview, I transcribed verbatim and coded the interview data using an online transcribing tool (www.transcribe.wreally.com). I transcribed, anonymised, and coded all interviews from September 2016 to June 2017. Interview data and notes were stored and managed using QSR NVivo11 in a password-protected file on my laptop.

The transcribing process involved listening to each interview and writing verbatim what was said by both the participant and me throughout the interview process. Also included in the transcription were details such as non-verbal behaviour and emotions expressed by the participant (e.g., laughing, crying, or angry) during the interview. I made a note of the questions and reflections that provoked strong responses in participants. Included in the transcription document were notes that I had taken during the interview. The records reflected my thoughts at

the time, ideas for other questions to ask in the interview process, non-verbal body language, and topics that I felt were important to codes and categories.

Doing my own transcribing was a slow process, albeit an essential one, because it led to early immersion in the data. Listening to participants convey their experiences and thoughts enabled me to recall what was relevant to each participant. I valued the intimacy and familiarity that I gained with the data during the transcribing process. The intimacy enabled me to capture not only what participants said, but how they said it, and the context in which they said it. Had I not transcribed the interviews myself I would have lost valuable data in my mind.

Following the transcription of each interview I coded the data in line with a constructivist GT approach (Charmaz, 2014). The following section outlines the process of initial and theoretical coding in this study.

5.3.2.2 Initial coding

Initial coding is the first step of data analysis in constructivist GT studies (Charmaz, 2014). Initial coding involves the preliminary breaking down of the raw data (Charmaz, 2014). Charmaz (2006) referred to initial coding as action coding, as the focus is on identifying the processes that people are engaging in. When naming the codes, there should be a focus on capturing action. To that end, Charmaz (2014) suggested the use of gerunds when "coding for actions" (p. 117). Gerunds are nouns formed from verbs by adding *-ing* and are helpful in identifying action and sequence (Charmaz, 2006). For example, *run* becomes *running*, or *cope* becomes *coping*. According to Charmaz (2014), the use of gerunds fosters theoretical sensitivity "because these words nudge us out of static topics and into enacted processes" (p. 245).

Constructivist GT researchers also aim to preserve participants' views in the coding itself (Charmaz, 2014). Participants' words are often expressive and succinctly capture what the data describe (Ward et al., 2017a). Charmaz (2014) referred to *in vivo* codes, which serve as "symbolic markers of participants' speech and meanings" (p. 134). Participants' words can become *in vivo* codes, such as *finding my why*, which can be subsumed into categories. The code *finding my why* remained as a code in the final theory and was included in the subcategory *navigating my why.*

The initial data analysis began by coding the data line by line, as this enabled me to stay close to the data (Birks & Mills, 2015; Charmaz, 2014). In the initial coding I looked for repetition, keywords, and connections. When coding I used Charmaz's (2014) question "What is going on here, what are people doing?" (p. 194) as a guide. I also found it helpful to ask myself, "What problems are participants trying to solve and how do they solve them?"

Table 8 presents an example of initial coding from the third interview. The transcript is in the right-hand column. The initial line-by-line coding is included in the left-hand column and shows how I coded using gerunds.

Table 8

An Example of Initial Coding from the Third Interview

Line-by-line codes	Transcript
Quitting the police. Feeling unsupported. Hating court escort work.	*I quit the police in xxx because it was more work related, the lack of support from above. I kept being put into a position that I detested, such as the court escort stuff. There you're surrounded constantly with negative people who think you owe them everything.*
	KH: The offenders?
Getting too much to handle. Feeling negative and angry. Bringing negativity home. Hating his job so much that he decided to pull the pin.	*Yes primarily those incarcerated who are brought into court for their appearance. It all got too much in the end, so I was probably an inch away from punching someone. I was so negative and down about it. Which had a flow-on effect on my family. One day I said to my wife, I'm going to pull the pin and she said go for it.*
	KH: Do you think anything would have made a difference for you, or changed your decision at that time?
Expecting help from supervisor. Being needed in court. Loving community police work. Feeling respected within the community. Wanting to help his co-workers but also wanting to do a job that he loved. Being conflicted. Standing by one set of values (respecting his supervisor) cost him his job. Reaching the end.	*Well, yeah, my supervisor could have done something for me… But it was the same thing always, get to court, you are needed at court. I was a community constable in town, I was well respected by everyone that we cared for in the community and retail sector. But the list kept growing bigger and bigger for court, therefore the court orderly needed support. And I am not going to leave a person in the lurch, if I was told to go and help, I was always respectful to my supervisor, if he gave me a task I did it. But in the end when I handed in my notice then it was oh what can we do to make you stay. Too late then, I'd reached the end.*

During initial coding, I memoed thoughts as they arose. In the case of the above data analysis, I wrote a memo titled “Incompatible or conflicting agendas”. Table 9 includes the memo that facilitated the process of theoretical sampling.

Table 9

An Example of Memoing from the Third Interview

15 September 2016: Memo—Incompatible or conflicting agendas
On the one hand, the participant values helping his co-workers and being respectful towards his supervisors. So when his boss asks him to do something, he always does it. However, helping co-workers takes him away from his other values, and his bigger passion for Community Policing. It is almost like the participant cannot resolve the conflict within himself. On the one hand he wants to help co-workers, but on the other hand, he wants to do a job that he loves. How do other people resolve this conflict? What happens to them when they cannot do a job or activity that they love because they are bound by another person’s agenda or a system requirement? It seems that this participant did not know what to do, he needed his supervisor’s help but didn’t get it. He had to resign to resolve the conflict. Maybe if he had help or a different set of skills, he could have resolved the conflict and not had to resign. What do other participants do to resolve conflict?

In the initial coding stages, I identified that each participant spoke about similar experiences. For example, each participant spoke about “making a difference” and “feeling capable” when discussing their wellbeing. The process of *making a difference* and *feeling capable* became *in vivo* codes. Participants described other common experiences related to their wellbeing, which included codes such as *the first why* and *barriers to my why*. Therefore, I interviewed nine more participants to ask additional questions about the initial codes. All participants continued to provide rich data related to the initial codes. However, new data indicated further processes involved in participants’ wellbeing. The codes *dealing with barriers* and *resolving conflict* directed the further theoretical sampling of 10 participants. The interviews aimed to gather more data about *making a difference*, *dealing with barriers*, *using resources*, and *resolving conflict*, and the relationship to participants’ wellbeing. I used existing professional contacts to identify first responders who had resigned from the emergency services, remained in junior ranks despite years of service, and had worked with first responders as a psychologist or a chaplain.

I continued initial coding and constantly compared the new developing codes with existing codes. The process of constant comparison is a central method for data analysis in GT (Charmaz, 2014). In the process of constant comparison, I developed increasingly focused codes. Charmaz (2006, 2014) recommended that brief, active, and incisive names be given to focused codes, which reflect the participants’ actions. Therefore, I used gerunds instead of nouns as much as I could to label the codes. Charmaz (2014) argued that using gerunds can focus analysis on enacted processes rather than individuals and can facilitate theory construction. The focused codes that occurred most frequently and made the most analytic sense to me were used to categorise the data.

The use of reflexivity, memoing, and diagramming aided the process of initial coding. For example, during an early stage of initial coding, I presented my analysis to peers at a GT study group, located at the Auckland University of Technology. In the meeting, I shared the codes, subcategories, and categories that I had formed and my developing theory about first responder wellbeing. Members of the group scrutinised how I constructed the data, and at times questioned the fit of specific codes and categories to the overall theory. For instance, a senior member of the group queried the use of specific static subcategories in my developing theory. After reflecting on the feedback, I realised that I had used static labels for the subcategories *barriers and enablers*, as shown in Figure 5, rather than active processes.

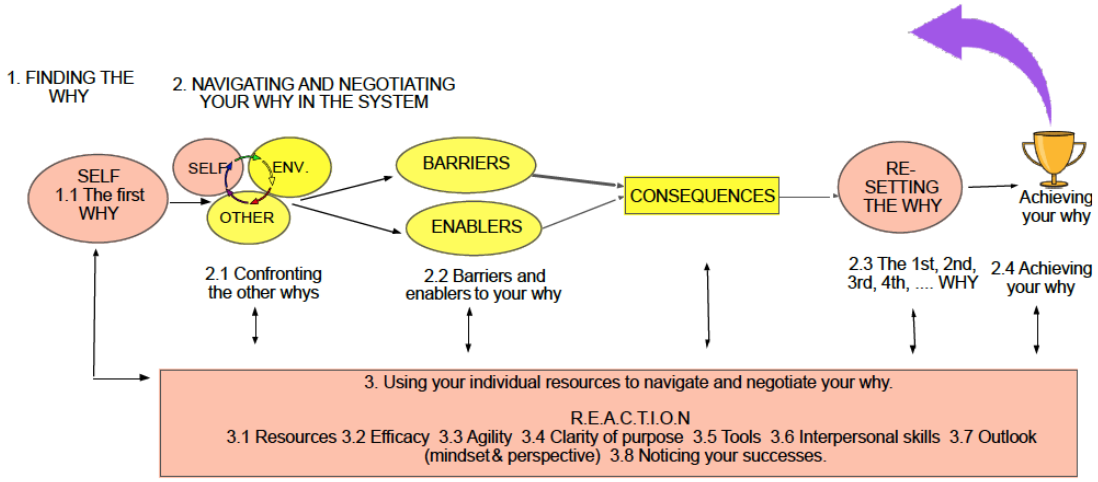


Figure 5. Diagramming the developing grounded theory

After the meeting, I returned to the data and explored how I had coded the subcategories *barriers and enablers*. I re-analysed existing codes and found that many codes were static and had not reflected action as advised by Charmaz (2014). I re-coded the data using gerunds, as indicated in Appendix F. As I analysed the data, I continued to use the process of constant comparative analysis. The process of comparing codes, grouping initial codes into subcategories and eventually categories helped to direct my analysis, as shown in Appendix F. As displayed in Figure 6, after re-analysing the data and using constant comparative analysis I refined the theory of first responder wellbeing.

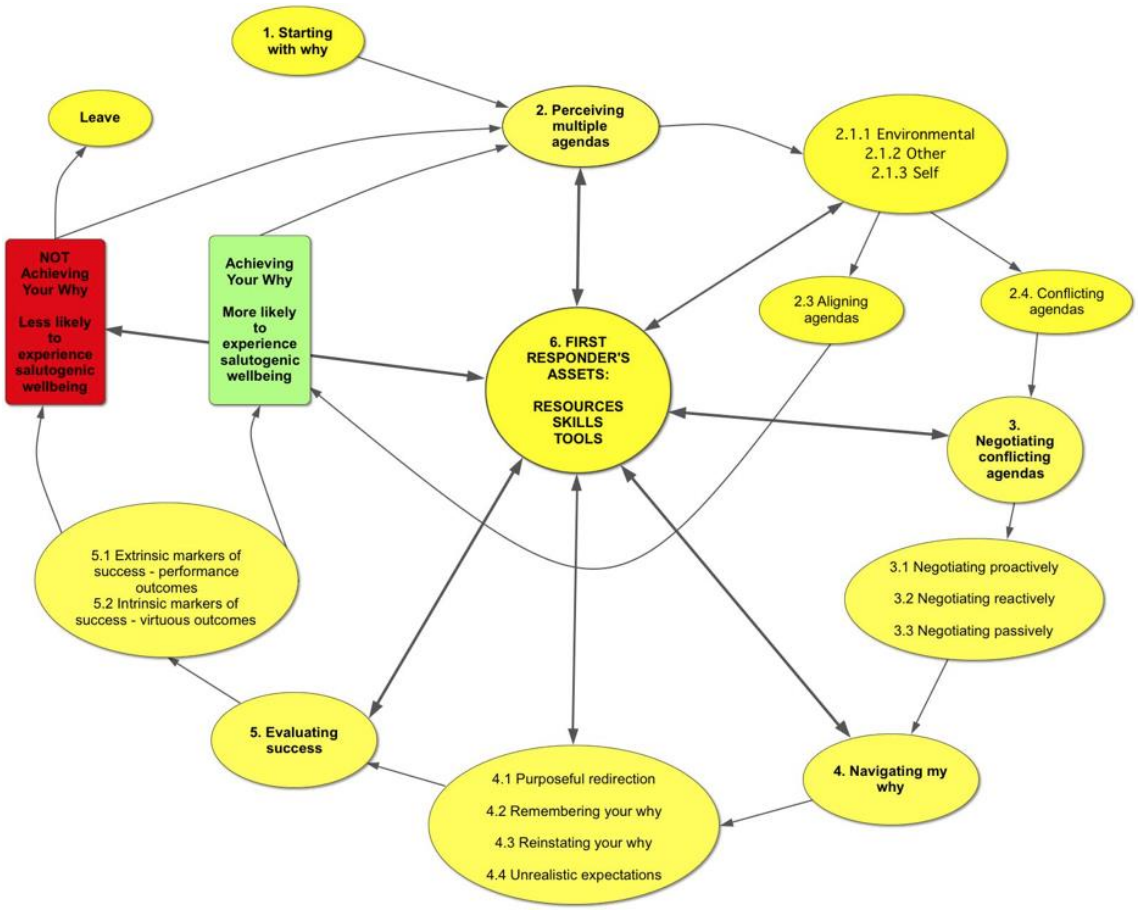


Figure 6. Refining the developing grounded theory

The initial coding stages resulted in 22 participants being interviewed. The next step in the study was theoretical coding (Charmaz, 2014). Theoretical coding was used to saturate the categories and to identify action in the developing GT (Charmaz, 2014). The following section outlines the process of theoretical coding.

5.3.2.3 Theoretical coding

Theoretical coding involves a more conceptual approach to data analysis in GT studies. In this study, the theoretical coding process enabled me to generate new ideas and abstract concepts about first responder wellbeing. Theoretical coding uses theoretical sensitivity, defined as "the ability to recognise and extract from the data elements that have relevance for an emerging theory" (Birks & Mills, 2015, p. 59). At this stage of data analysis I drew on my experiences as a psychologist, prior readings for the PhD research program, and the data to think about the subcategories and categories abductively. Ward (2016) illustrated the process of abduction in GT studies and explained how abduction leads to "abstraction of data to the conceptual level" (p. 80). The process of abduction was aided by memoing, diagramming (as shown in Figure 7), supervision sessions, and explaining my thought processes to my patient husband.[1]

[1] My husband provided a sounding board for me to work through my developing ideas. I discussed the developing theory formally with participants during theoretical sampling and in supervision sessions.

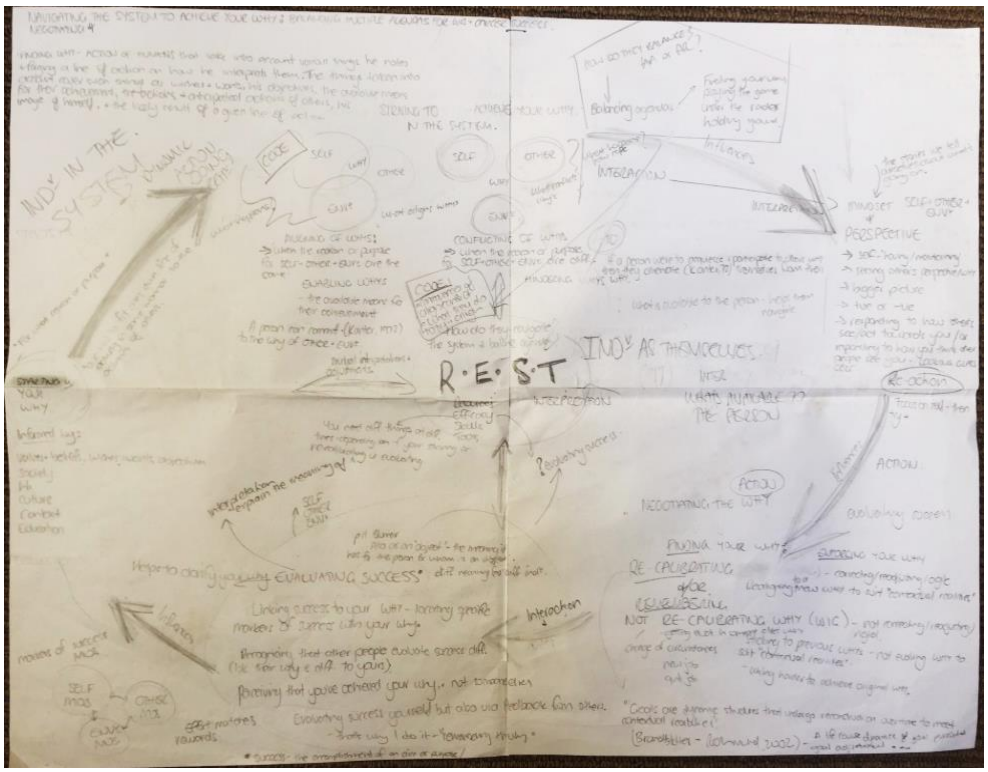


Figure 7. An example of a diagram used in theoretical coding

After the first stage of theoretical coding I identified gaps and weaknesses in the developing theory. There was little integration of categories into an emerging theory about first responder wellbeing. As indicated below, I used a storyline technique to extend analysis (Birks & Mills, 2015). The storyline technique forced me to move beyond static concepts into dynamic processes that involved interactions between each of the subcategories in the developing category, and between the categories in the developing theory.

Birks, Mills, Francis, and Chapman (2009) suggested that a storyline can be used in all stages of analysis and theoretical development in GT studies. I used storyline in the current thesis to facilitate theoretical coding. In this case the researcher is required to write and rewrite the story until the links between categories are clear and any variation is accounted for (Birks & Mills, 2015). The process enables the researcher to write a storyline that can unify categories into a theoretical explanation (Birks & Mills, 2015). Gaps in the story signify that the theory is not adequately integrated, and when this happens the researcher is directed back to the data or on to further theoretical sampling until the theory is fully integrated (Birks & Mills, 2015). The storyline technique encouraged me to further sort through the coded data, which helped me to fill gaps in some of the theory development. However, the storyline technique also allowed me to see that some of the subcategories and categories were disjointed and did not form a coherent story of first responder wellbeing. For example, at one stage in the theory construction, I could explain how the category first responders' assets (see Figure 6) changed how participants dealt with barriers; however, I could not explain how, when, and why participants

developed their assets. The storyline technique provided a way for me to see that I was missing data and this was preventing me from abstracting.

As a result of the storyline technique, I was required to return to the data. However, I was still unclear about a number of processes. To that end, I included three more participants to clarify the missing processes in the developing theory. I specifically sought to interview more experienced first responders and professionals who worked with first responders, such as a psychologist or chaplain. I used the storyline technique, theoretical sampling, constant comparative analysis, memoing, diagramming, and theoretical sensitivity to reach a conceptual understanding of the data.

Data analysis ceases when each category reaches theoretical saturation (Birks & Mills, 2015). According to Charmaz (2014), theoretical saturation "refers to the point at which gathering more data about a theoretical category reveals no new properties nor yields any further theoretical insights about the emerging grounded theory" (p. 345). In the current study, theoretical saturation had occurred by the 25th interview. Additional data did not reveal any new insights and the data fitted with existing categories.

5.3.3 Section summary

In this section I have presented the data collection and analysis for the qualitative study. I explained the details of the recruitment and sampling for this study, and the semi-structured interview technique used to collect data. I detailed the constructivist GT methods used to analyse the qualitative data. The final section of this chapter presents the criteria used to evaluate rigour in the current mixed methods study.

5.4 Rigour

A previous section (4.4 Rigour in this mixed methods methodology study) described how I used reflexivity to promote rigour in the mixed methods methodology underpinning this thesis. In the current section, I outline the criteria used to establish rigour in the mixed methods studies. I begin with the criteria used for rigour in mixed methods research, then explain how rigour was established in the quantitative study, before presenting the criteria used for rigour used in the qualitative study.

5.4.1 Rigour in mixed methods research

Criteria for evaluating rigour in mixed methods research is less developed than in quantitative and qualitative research (Tashakkori & Teddlie, 2010). However, the Good Reporting of a Mixed Methods Study (GRAMMS) guidelines are a common tool for evaluating rigour in mixed methods studies (Brown et al., 2015; O'Cathain, Murphy, & Nicholl, 2008). The GRAMMS (O'Cathain et al., 2008, p. 97) guidelines include six criteria, which are outlined in Table 10. The current research program has met each of the GRAMMS guidelines, as evidenced in Table 10.

Table 10

The GRAMMS Guidelines for Evaluating Rigour in Mixed Methods Research

GRAMMS criteria	Explanation	Chapters in the thesis that evidence each criteria
1.	Describe the justification for using a mixed methods approach to the research question.	Chapter four presents evidence for why a mixed methods methodology, underpinned by a pragmatist epistemology, was appropriate to research wellbeing in the current study.
2.	Describe the design in terms of the purpose, priority and sequence of methods.	Chapter five outlines the criteria used to select the design of this mixed methods study. The study was a sequential mixed design because mixing occurred across chronological phases of the study and the research questions were related to one another.
3.	Describe each method in terms of sampling, data collection and analysis.	Chapter five describes each method regarding sampling, data collection, and analysis.
4.	Describe where integration has occurred, how it has occurred and who has participated in it.	Integration has occurred at all stages of the research process. Chapter one presents the integrated research question. Chapters five and six explain how the qualitative study were used to clarify and expand upon the quantitative findings. Chapter eight synthesises the findings from the quantitative and qualitative study.
5.	Describe any limitation of one method associated with the presence of the other method.	Chapter four explains why a quantitative or qualitative methodology alone was inadequate to address the research question.
6.	Describe any insights gained with mixing or integrating methods.	Chapter eight describes the insights that have been gained by the synthesised findings.

5.4.3 Rigour in the quantitative study

Rigour in quantitative research is evaluated using the criteria of validity, reliability, replicability, and generalisability (Bryman, Becker, & Sempik, 2008). The term *reliability* refers to the overall consistency of a particular tool, test, or procedure, such as a questionnaire (Roberts & Priest, 2006). When measures have high reliability, they are expected to produce the same results under the same conditions (Roberts & Priest, 2006). *Validity* refers to a scale's ability to measure what it claims to measure (Roberts & Priest, 2006). *External validity* refers to the findings' generalisability to the target population, while internal validity indicates to what extent

the research minimises bias (systematic error) to rule out the effect of unobserved variables on the conclusions made (Gravetter & Wallnau, 2017). Meeting the criteria of reliability and validity provides reassurances that quantitative results can be generalised to the target population.

The quantitative study used secondary data from an online survey of New Zealand workers' wellbeing. The survey used validated psychometric scales, as shown in Appendix D.3. I ensured that the appropriate statistical tools were used to analyse the quantitative data by conducting preliminary data analysis. The large sample size meant that the findings were presented using statistical significance and effect size. The processes used to ensure rigour are outlined in section 4.1 Implementing the quantitative study.

5.4.4 Rigour in the grounded theory study

Rigour in the GT study was evaluated using Charmaz's (2014) criteria of credibility, originality, resonance, and usefulness. Credibility means that a wide enough range of empirical observations are provided to justify the construction of each category in a GT. Making systematic comparisons between observations and between categories is a further way to enhance credibility. Originality refers to the novel contribution that GT makes to the studied field. The GT can be evaluated as original if it challenges, extends, or refines current ideas, concepts, and practices. Resonance is a term used to describe whether the GT makes sense to the participants involved in the study or people who share their circumstances. Usefulness is the criterion used by Charmaz (2014) to describe whether the GT offers interpretations that people can use in their everyday worlds. If the GT contributes knowledge that is useful to make a better world, then the constructed GT is considered to meet the criterion of usefulness. If data analysis sparks new research in other substantive areas, then the GT is also regarded as useful.

Regarding Charmaz's (2014) criteria of credibility, in the current GT study, I discussed the data analysis with supervisors and GT colleagues. I shared category constructions with colleagues, who challenged my interpretation of the data, and how I had constructed categories. In discussing the categories with critical supervisors, I was forced to defend my decisions and provide sufficient evidence to justify my claims. The process of explaining each category ensured that all subcategories and categories were grounded in the data. Memoing, diagramming, and storytelling enabled clarification and refinement of constructions as analysis progressed, along with providing an audit trail of the theory development. The findings section of the qualitative study includes quotations of participants' statements to evidence category construction, thereby further meeting Charmaz's (2014) criterion of credibility. In chapter five and seven I have illustrated the use of memoing and diagramming. The techniques described thus far demonstrate how I met Charmaz's (2014) criterion for credibility.

In regard to originality, there are no known studies of first responder wellbeing using GT methods (Varker et al., 2018). No known research has investigated first responder wellbeing from their perspective. There have been no known studies to investigate police, paramedic, and firefighter wellbeing in the one study (Varker et al., 2018). Although research has been

conducted to identify what factors cause problems for first responders' wellbeing, no known studies have explored how first responders deal with organisational and operational problems to maintain their wellbeing. The qualitative study is original as it provides an interpretive explanation of what, why, and how first responders experience wellbeing, from their perspective.

GT methods, including theoretical sampling, were used to enhance resonance. For instance, the process of theoretical sampling enabled participants to implicitly evaluate conceptual ideas, which provided a way to develop categories against their experience and understanding (Charmaz, 2014). Discussing the final GT with the study participants and other people in similar circumstances enabled me to evaluate resonance. Feedback suggested that the GT resonated with their experiences, as shown in Appendix C.3.

The general discussion of this thesis (chapter eight) provides evidence of the criteria of usefulness. In chapter eight I provide recommendations on how to protect first responder wellbeing based on the findings of this GT study. Further, the analytic categories suggest generic processes that are relevant to other occupational groups, such as medicine and teaching, as evidenced in Appendix C.3. The final GT also appears useful to people in other occupational groups. These outcomes illustrate how I met Charmaz's (2014) criterion for usefulness.

5.5 Chapter summary

In this chapter I have set the scene by presenting the ethical considerations for this study. The chapter then outlined the data collection and analysis for the quantitative study and then the qualitative study. I also described how rigour was established in the mixed methods, quantitative, and qualitative study. Chapter six now presents the results of the quantitative study.

Chapter 6. Findings from the quantitative study

The quantitative study aimed to investigate how wellbeing was experienced differently among workers in different occupational contexts. Chapter six now presents the findings from the quantitative study. The study contributes new knowledge to the occupational wellbeing literature. At the time of writing the quantitative research for publication, I had identified no other research that had investigated the unique factors associated with wellbeing among different occupational groups. The findings from this study were used to guide the next stage of the research, as explained in the postscript of this chapter.

The following manuscript was accepted for publication in a special issue of the *New Zealand Journal of Human Resource Management*, open access, in 2015. The following article is cited as:

> Hamling, K., Jarden, A., & Schofield, G. (2015). Recipes for occupational wellbeing: An investigation of the associations with wellbeing in New Zealand workers. *New Zealand Journal of Human Resource Management*, *12*(2), 151–173.

The paper is reproduced here in its entirety with permission from the *New Zealand Journal of Human Resource Management*. In this article I use the plural personal pronoun we as the paper was published with the above co-authors.

6.1 Published article: Recipes for occupational wellbeing

6.1.1 Abstract

This cross-sectional study sought to investigate whether workers in eight distinct occupational groups in New Zealand experienced wellbeing in the same way or whether there were unique recipes for wellbeing according to occupational context. We first examined and compared the prevalence of flourishing (a global wellbeing outcome) and job satisfaction (a specific contextual wellbeing outcome) among the occupational groups. We then investigated whether there were differences in the factors associated with flourishing and job satisfaction for each group of workers. Results of non-parametric testing revealed that the prevalence of flourishing and job satisfaction varied significantly between occupational groups, in particular, between higher and lower status occupations. Multiple regression analysis revealed that unique factors were associated with flourishing and job satisfaction scores across occupational groups. However, meaning and purpose was most strongly associated with flourishing scores, while work–life balance was most strongly associated with job satisfaction scores. The findings are discussed in the context of current workplace wellbeing initiatives.

Keywords: occupational wellbeing, flourishing, job satisfaction, self-determination, health gradient, wellbeing needs assessment.

6.1.2 Background and context

The 21st century has resulted in many changes to the modern workplace. The extent and speed of change are unparalleled, resulting in fundamental alterations to the occupational landscape (Laloux, 2014). Jobs today are more psychologically than physically demanding, there are fewer jobs in mass production, women and older people are a growing proportion of the workforce, and there are more part-time roles (Marmot, Siegrist, & Theorell, 2006).

Changes to the modern workplace offer more opportunities for job flexibility, crafting, workplace health and safety, and the potential for employee wellbeing. In spite of these benefits, work-related stress remains a leading cause of absence from work in developed countries (Cooper, 2015; European Agency for Safety and Health at Work, 2009). In response, many organisations have implemented programs designed to mitigate job stress (Martin, Sanderson, & Cocker, 2009). Traditionally, such workplace programs have focused on a risk-based or negatively framed approach to health, such as occupational health and safety models that aim to prevent illness and injury. Rarely have workplace programs focused on positively framed approaches that actively promote positive aspects of employee wellbeing (LaMontagne, Keegel, & Vallance, 2007; Luthans, 2002b; Page & Vella-Brodrick, 2012). There is evidence that positive wellbeing serves as a protective factor against some mental disorders and buffers against stress (Keyes, Dhingra, & Simoes, 2010; Layous, Chancellor, & Lyubomirsky, 2014; Tugade & Fredrickson, 2004; Wood & Joseph, 2010). Mental health also promotes physical and psychological health and is strongly linked with favourable workplace outcomes (beyondblue & PwC, 2014; Boehm &

Kubzansky, 2012; Rodríguez-Carvajal, Moreno-Jiménez, Rivas-Hermosilla, Álvarez-Bejarano, & Vergel, 2010). Promoting employee wellbeing is therefore considered an important component of workplace wellbeing initiatives, both in and of itself but also as a proactive buffer against job stress.

In light of the benefits of employee wellbeing, workplaces are advised to adopt an integrated approach to workplace mental health. That is, equal attention should be given to illness prevention, health promotion, and the treatment of mental health problems (LaMontagne et al., 2014). While a substantial amount of knowledge is available on the factors associated with employee ill health, comparatively little is known about the factors related to employee wellbeing (LaMontagne et al., 2014; Mills, Fleck, & Kozikowski, 2013).

Most research on employee wellbeing comes from the fields of positive organisation scholarship (Cameron, Dutton, & Quinn, 2003) and positive organisational behaviour (Luthans, 2002b). Research stemming from these fields demonstrates that wellbeing at work goes beyond the dominant outcome variables of engagement and job satisfaction, to include "positively oriented human resource strengths and psychological capacities" (Luthans, 2002a, p. 59). Positive outcomes also include the concept of psychological capital, which refers to hope, resilience, self-efficacy, and optimism (Avey et al., 2010). An analysis of workplace wellbeing in a New Zealand working population has shown that employee wellbeing involves more than being engaged and having job satisfaction, but is related to a range of lifestyle, physical, psychosocial, and work-related factors (Hone, Jarden, Duncan, & Schofield, 2015). Despite these findings, many employee wellbeing programs continue to operate from a risk-based perspective, such as the prevention and treatment of illness and injury (LaMontagne et al., 2014). We urge that the future focus on employee wellbeing take into account a broader range of contributing factors and adopt a positively oriented approach to promoting wellbeing. To that end, we now consider current approaches to wellbeing from a health-promoting perspective.

Understanding employee wellbeing

Conceptions of wellbeing vary according to the framework from which it is considered (Hone, Jarden, & Schofield, 2014). For instance, Seligman's (2012) PERMA model focuses on Positive emotions, Engagement, Relationships, Meaning in life, and Accomplishments. Diener et al.'s (2010) Flourishing Scale focuses on psychological wellbeing, which includes purpose/meaning, positive relationships, engagement, social contribution, competence, self-respect, optimism, and social relationships. Although there is a consensus that wellbeing is a multidimensional construct and that flourishing refers to high levels of wellbeing, there is disagreement concerning various component factors (Hone et al., 2014). For example, accomplishment is in Seligman's (2012) PERMA model but is absent from all other major models, and physical health is missing from all of the models listed above. Moreover, few studies have authenticated the models in different cultural and contextual environments. Therefore, although research on wellbeing and flourishing informs us of the general pathways to flourishing in life, very little is known about what promotes wellbeing at a contextual level, in particular, in the occupational

context.

Wellbeing in context

As discussed next, evidence shows that occupational context influences employee wellbeing. In the Whitehall Studies, a landmark longitudinal study of British civil servants, occupational status was shown to have a strong bearing on health (Marmot, Rose, Shipley, & Hamilton, 1978; Marmot et al., 1991). For example, in the Whitehall Studies, it was demonstrated that people in higher occupational status employment experienced more positive health outcomes, whereas people in lower occupational status employment experienced more ill health (Marmot et al., 1978; Marmot et al., 1991). The Whitehall Studies also demonstrated that as occupational status reduced, there was a corresponding decline in the worker's health status. Health differences across the occupational hierarchy have been widely reported and are referred to as the health gradient (Marmot, 2004).

In addition to occupational status, a number of other variables have been shown to influence wellbeing. Diener, Oishi, and Lucas (2003) reported the influences of culture on wellbeing. Zhai, Willis, O'Shea, Zhai, and Yang (2013) illustrated that personality type can influence how wellbeing is experienced, while Hone, Jarden, Duncan, and Schofield (2015) reported that age also affects how people experience wellbeing. Moreover, certain types of people may be drawn to particular occupations. For example, a caring person becomes a nurse (Garcia-Sedeño, Navarro, & Menacho, 2009). Therefore, there may be unique occupational contextual factors that influence wellbeing.

Research has investigated the factors that influence the wellbeing of employees in general (Biggio & Cortese, 2013; Dickson-Swift, Fox, Marshall, Welch, & Willis, 2014; Hone et al., 2015). S. Johnson et al. (2005) compared the stress prevalence of different employee groups, while Geyer and Peter (2000) investigated contributors to the health gradient, such as income and level of education. However, the unique variations in wellbeing according to occupational context have not yet been investigated. That is, few studies have examined the factors associated with wellbeing, such as flourishing and job satisfaction, for different occupational groups, rather than for workers as a whole. In the current study, we consider that the factors associated with employee flourishing and job satisfaction may differ according to occupational context.

6.1.3 Objectives of the current study

The current study sought to explore differences and similarities in flourishing scores (global wellbeing outcomes) and job satisfaction scores (specific contextual wellbeing outcomes) of workers in distinct occupational groups within New Zealand. The study had two aims:

1. to investigate whether the prevalence rates of flourishing and job satisfaction are the same, or different, for each occupational group; and

2. to understand whether the associations between wellbeing (flourishing and job satisfaction) and major life domains are the same for each occupational group, or whether there is a unique recipe according to occupation.

By further examining the recipes for flourishing and job satisfaction for different occupations, we are better placed to offer recommendations on how to improve and tailor existing organisational wellbeing initiatives.

6.1.4 Methods

This methods section is also included in section 5.2 Implementing the quantitative study. The purpose of including the methods section in chapter five was to maintain continuity in the overall structure of the thesis. In addition, chapter five provides a comprehensive outline of the implementation of the quantitative data. The current section is abridged for the purpose of publication. The current section begins with a summary of the recruitment and sampling for this study, and the measures used to collect data. The statistical techniques used to analyse the quantitative data are outlined next.

6.1.4.1 Participant recruitment and sampling

In 2012, the New Zealand office of Kantar TNS Global, an international market research company, collected data for the Sovereign Wellbeing Index (SWI) on behalf of Dr Jarden (Hamling et al., 2015). In the first of three waves (September to October 2012), a total of 38,439 invitations were sent to a random selection of approximately 400,000 members; the completion rate was 26% (N = 9,962). Participants who completed the 2012 survey were invited to participate in the second wave in 2014, for which the completion rate was 44% (n = 4,435). Additional invitations were then sent to 53,628 new panel members, who did not participate in 2012. Of these invitations, a total of 5,577 adults participated (10%), and of those that responded to the survey invitation, 88% completed the survey (n = 11,426).

Similar to wave one, the sampling strategy for wave two was stratified against the 2006 New Zealand Census values. Sample characteristics of both wave one and wave two closely aligned with the New Zealand Census and were representative of the New Zealand population. All panel members aged over 18 were eligible. As the focus of our analysis is on how people in different occupational groups experience wellbeing, we used a reduced sample of only those participants in paid employment (N = 5,126). Therefore, for this study, inclusion criteria were participants aged over 18 years in paid employment. No exclusion criteria were applied. Table 11 shows the demographic characteristics of participants in paid employment included in the current study.

Table 11

Demographic Characteristics of Workers in the 2014 Wave of the Sovereign Wellbeing Index

Occupation	*n*	%	Age	Gender %	Ethnicity European %	Ethnicity Māori %	Ethnicity Asian %
Manager	702	13.5	*M* = 43.85 *SD* = 12.31	M 60.5 F 39.5	73.4	11.8	13.4
Professional	1524	29.3	*M* = 40.52 *SD* = 12.44	M 49.3 F 50.7	69.1	7.7	21.0
Technician or Trade Worker	575	11.0	*M* = 43.23 *SD* = 13.11	M 79.8 F 20.2	72.2	11.3	14.8
Community or Personal Service Worker	363	7.0	*M* = 44.96 *SD* = 12.73	M 26.8 F 73.2	77.1	14.9	7.4
Clerical or Administrative Worker	944	18.1	*M* = 41.69 *SD* = 12.05	M 25.4 F 74.6	73.5	13.0	12.1
Sales Worker	478	9.2	*M* = 39.09 *SD* = 14.56	M 43.9 F 56.1	74.5	10.9	13.6
Machinery Operator or Driver	229	4.4	*M* = 46.94 *SD* = 13.03	M 86.9 F 13.1	72.1	18.3	8.7
Labourer	395	7.6	*M* = 40.88 *SD* = 13.74	M 61.9 F 38.1	74.9	14.2	8.9
Total	5210	100.0	*M* = *41.98* *SD* = 12.93	50.4 M 49.6 F	72.0	13.0	13.0

6.1.4.2 Data collection

The quantitative study was published in the *New Zealand Journal of Human Resource Management* in 2015 (Hamling et al., 2015). A version of the article has been used to present findings from the quantitative phase of the study in chapter five. The article retains the methods section in chapter six to maintain continuity in the overall structure of the thesis.

The quantitative study used secondary data from the SWI (Jarden et al., 2013). The SWI (Jarden et al., 2013) is an online survey containing a large range of wellbeing, health, lifestyle, work-related, and socio-demographic variables (total items = 324; see www.mywellbeing.co.nz). It was designed specifically to measure the health and wellbeing of New Zealanders and was conducted for the first time in 2012 and again in 2014. The current study used data from wave two (2014) of this index. The data were made available for secondary data analysis by the lead author and investigator of the SWI, Dr Aaron Jarden (Jarden et al., 2013).

6.1.4.3 Measures in the survey

The SWI survey contains validated psychometric scales based mainly on wave six of the ESS Personal and Social Wellbeing module (European Social Survey, 2012). Questions were drawn from a variety of other sources, including the New Zealand Health Survey (Ministry of Health, 2006/07). The SWI also includes items assessing participation in the Five Ways to Wellbeing: Connect, Give, Take Notice, Keep Learning, and Be Active. The New Economics Foundation has identified the five ways to wellbeing as behaviours to improve population wellbeing (Aked et al., 2009). Three additional scales supplemented the SWI. The first was a Flourishing Scale, a self-reported measure of psychological wellbeing (Diener et al., 2010). The second scale included two questions from the Strengths Knowledge and Strength Use Scales (Govindji & Linley, 2007). The third was from a life domains satisfaction scale (Huppert & So, 2013). The scales have been used to measure wellbeing across 26 European countries (Huppert & So, 2013). Table 12 describes each construct included in the analysis, including the corresponding items and response scales.

Table 12

Questions and Response Scales of the Lifestyle, Health, Psychosocial, Life Satisfaction, and Work-Related Constructs Used

Construct	Question	Response scale
Lifestyle behaviours		
Connect	How often do you meet socially with friends, relatives or work colleagues?	1 = never, to 7 = every day
Give	To what extent do you provide help and support to people you are close to when they need it?	0 = not at all, to 6 = completely
Take notice	On a typical day, how often do you take notice and appreciate your surroundings?	0 = never, to 10 = always
Keep learning	To what extent do you learn new things in life?	0 = not at all to, 6 = a great deal
Be active	How much time do you spend in physical activity with others?	0 = not at all, to 6 = a great deal
Be active	How much time do you spend in physical activity on your own?	0 = never to, 5 = five days a week
Volunteering	In the past 12 months, how often did you get involved in work for voluntary or charitable organisations?	1 = never to, 6 = at least once a week
Subjective health	How is your health in general?	1 = very bad to, 5 = very good
Psychosocial		
Strengths	I know my strengths well.	1 = strongly disagree to, 5 = strongly agree
Strengths	I always try to use my strengths.	1 = strongly disagree to, 5 = strongly agree
Autonomy	I feel I am free to decide for myself how to live my life.	1 = strongly disagree to, 5 = strongly agree
Engaged	How much of the time would you generally say you are absorbed in what you are doing?	0 = none of the time to, 10 = all of the time
Feeling respected	To what extent do you feel that people treat you with respect?	0 = not at all to, 6 = a great deal

Social support	To what extent do you receive help and support from people you are close to when you need it?	0 = not at all to, 6 = completely
Relationships	How many people are there with whom you can discuss intimate and personal matters?	1 = none to, 7 = 10 or more
Resilience	When things go wrong in my life, it generally takes me a long time to get back to normal.	1 = strongly agree to, 5 = strongly disagree
Resilience	How difficult or easy do you find it to deal with important problems that come up in your life?	0 = extremely difficult to, 10 = extremely easy
Meaning/purpose	I generally feel that what I do in my life is valuable and worthwhile.	1 = strongly disagree to, 5 = strongly agree
Self-esteem	In general I feel very positive about myself.	1 = strongly disagree to, 5 = strongly agree
Work related		
Job satisfaction	All things considered, how satisfied are you with your present job?	0 = extremely dissatisfied to, 10 = extremely satisfied
Work–life balance	All things considered, how satisfied are you with the balance between the time you spend on your paid work and the time you spend on other aspects of your life?	0 = extremely dissatisfied to, 10 = extremely satisfied
Financial security	Which of these descriptions comes closest to how you feel about your household's income nowadays?	1 = finding it very difficult on present income to, 4 = living comfortably on present income
Satisfaction with major life domains	How satisfied are you with each of these aspects in your life? Intimate relationships, Family, Friends, Leisure time, Time on your own, Politics, Work, Education, Religion, Spirituality, and Community Involvement.	0 = extremely dissatisfied to, 10 = extremely satisfied
Diener Flourishing Scale	I lead a purposeful and meaningful life. My social relationships are supportive and rewarding. I am engaged and interested in my daily activities. I actively contribute to the happiness and wellbeing of others. I am competent and capable in the activities that are important to me. I am a good person and live a good life. I am optimistic about my future. People respect me.	1 = strongly disagree to, 7 = strongly agree

6.1.4.4 Data analysis

The Statistical Package for the Social Sciences (SPSS) software, version 22, was used to analyse the data. The quantitative data were first analysed to determine whether the eight occupational cohorts had different wellbeing scores. The Shapiro–Wilk test of normality was not appropriate for the preliminary data analysis in this quantitative study because of the large sample size. The Shapiro–Wilk test of normality is only suitable for small samples of less than 2,000 cases (Field, 2013). Therefore, histograms for skewness and kurtosis, and normal Q-Q plots were created to visually inspect the data. The analysis suggested that these variables were negatively skewed. The Levene's F test also revealed that the homogeneity of variance assumption was not met ($p < .001$). Non-parametric tests, Kruskal–Wallis and Mann–Whitney U tests (alpha level of .05), were therefore used to compare the different occupational groups.

Preliminary testing was conducted to ascertain whether a multiple regression could be a suitable way of analysing the data. Multiple regression is useful when a researcher wants to explore the predictive ability of a set of independent variables on one continuous dependent measure (Pallant, 2011). In the current study, a multiple regression would allow comparison of which factors (independent variable) significantly correlated with wellbeing scores (dependent variable) for eight different occupational groups.

To investigate the suitability of the data for a multiple regression, an analysis of standard residuals was first carried out to identify extreme outliers (Tabachnick & Fidell, 2007). A scatterplot graph was generated for each occupation and was used to confirm outliers visually. Fourteen of the 5,216 participants had standardised residual values above about +/− 3.3 and were removed. An examination of correlations revealed that no independent variables were highly correlated, and the collinearity statistics, tolerance and variance inflation factor were all within accepted limits (Pallant, 2011). The assumption of multicollinearity was deemed to have been met, suggesting that all scales were measuring independent constructs. A significant ($p < .001$) regression equation was found across occupational groups, demonstrating that the items selected for the regression analysis were able to predict a large proportion of the variance in wellbeing scores for each occupation. Therefore, a multiple regression was considered a suitable analytic tool to address the research question in the quantitative study.

6.1.5 Results

First we investigated the prevalence of flourishing across the eight occupational groups. The Kruskal–Wallis test revealed that there was a statistically significant difference in average Flourishing Scale scores across the groups, x2 (7, $n = 5,126$) = 172.05, $p < .001$). Table 13 displays the median and interquartile range (IQR) of Flourishing Scale scores for each occupation, displayed from highest to lowest median Flourishing Scale score rank.

Table 13

Ranked Flourishing Scale Score for Each Occupational Group

Occupation	*n*	*Md*	*(IQR)*
Manager	692	48.00	(7.50)
Professional	1494	48.00	(7.00)
Community or Personal Service Worker	358	47.00	(9.00)
Machinery Operator or Driver	222	46.00	(9.25)
Clerical or Administrative Worker	930	46.00	(8.00)
Technician or Trade Worker	568	46.00	(10.00)
Sales Worker	464	45.00	(8.00)
Labourer	284	42.00	(14.00)

Having established that there were significant differences between occupations, Mann–Whitney U tests (with Bonferroni corrections) were conducted to examine the individual differences between the occupational groups. Refer to Table 14 for a description of the z scores, statistical significance, and Cohen's d effect size ($r = z/\sqrt{N}$) for each occupational group. The effect sizes are displayed from highest to lowest value. As indicated in Table 14, the largest differences in the median Flourishing Scale scores between occupational groups were between labourers and all other occupations.

Table 14

Ranked Differences in Median Flourishing Scale Score for Each Occupational Group

Occupation		z	ES	Sig.
Manager	Labourer	−8.681	0.264	0.01
	Sales Worker	−5.268	0.154	0.01
	Technician/Trade	−4.779	0.134	0.01
	Clerical/Administration	−5.198	0.128	0.01
	Machinery Operator/Driver	−3.349	0.110	0.01
	Professional	−0.770	0.016	ns
	Community/Personal Service	−0.507	0.015	ns
Community/ Personal Services	Labourer	−6.77	0.248	0.01
	Sales Worker	−3.832	0.133	0.01
	Machinery Operator/Driver	−2.507	0.103	0.05
	Clerical/Administration	−3.464	0.096	0.01
Clerical/ Administrative	Labourer	−5.45	0.150	0.01
	Sales Worker	−1.174	0.054	ns
	Machinery Operator/Driver	−0.044	0.001	ns
Sales Worker	Labourer	−3.759	0.129	0.01
	Machinery Operator/Driver	−0.761	0.029	ns
Machinery Op./ Driver	Labourer	−3.793	0.153	0.01

Given that some occupations had higher flourishing than others, next we investigated whether there was a unique recipe for flourishing for each occupational group. A series of standard multiple regression analyses were used to assess the ability of lifestyle, health, psychosocial, satisfaction with major life domains, and work-related factors to predict levels of flourishing (Flourishing Scale scores) for workers in eight separate occupation groups.

Before conducting the regression analysis, an analysis of standard residuals was carried out on the data to identify extreme outliers (Tabachnick & Fidell, 2007). A scatterplot graph was generated for each occupation and was used to confirm outliers visually. Fourteen of the 5,216 participants had standardised residual values above about +/− 3.3 and were removed. An examination of correlations revealed that no independent variables were highly correlated, and the collinearity statistics, that is, tolerance and variance inflation factor were all within accepted limits (Pallant, 2011). The assumption of multicollinearity was deemed to have been met, suggesting that all scales were measuring independent constructs. A significant ($p < .001$) regression equation was found across occupational groups, demonstrating that the items selected for the regression analysis were able to predict a large proportion of the variance in Flourishing Scale scores for each occupation.

Next, we examined which of the lifestyle, health, psychosocial factors, satisfaction with major life domains, and work-related factors explained the greatest amount of variance in Flourishing

Scale scores for each separate occupation type. Beta weights were used to identify the five largest factors of the 33 possible. For a description of the five largest factors by occupational group, refer to Table 15.

Table 15

The Five Items that Explain the Greatest Amount of Variance in Flourishing Scale Scores for Each Occupational Group

Occupation	Factor		Beta	Sig.	95% CI
Professionals	1.	Meaning and purpose	.238	.05	[1.71, 2.63]
	2.	Self-Esteem	.185	.05	[1.03, 1.73]
	3.	Satisfied with friends	.136	.05	[0.29, 0.67]
	4.	Satisfied with work	.118	.05	[0.17, 0.58]
	5.	Feeling respected	.100	.05	[0.34, 0.90]
Technician or Trade Worker	1.	Meaning and purpose	.175	.05	[0.78, 2.35]
	2.	Self-esteem	.158	.05	[0.57, 2.16]
	3.	Subjective general health	.122	.05	[0.49, 1.84]
	4.	Satisfied with family	.116	.05	[0.08, 0.71]
	5.	Satisfied with friends	.106	.05	[0.03, 0.73]
Community or Personal Service Worker	1.	Meaning and purpose	.259	.05	[1.56, 3.25]
	2.	Self-esteem	.229	.05	[1.02, 2.75]
	3.	Satisfied with leisure time	.188	.05	[0.22, 1.00]
	4.	Satisfied with intimate r'ships	.160	.05	[0.16, 0.63]
	5.	Give	.111	.05	[0.21, 1.59]
Clerical or Administrative Worker	1.	Meaning and purpose	.226	.05	[1.33, 2.46]
	2.	Self-esteem	.211	.05	[1.04, 2.08]
	3.	Satisfied with current job	.145	.05	[0.17, 0.72]
	4.	Satisfied with spirituality	.128	.05	[0.11, 0.60]
	5.	Satisfied with family	.095	.05	[0.11, 0.56]
Sales Worker	1.	Meaning and purpose	.187	.05	[0.73, 2.56]
	2.	Use of strengths	.168	.05	[0.78, 2.62]
	3.	Satisfied with work	.126	*ns*	[0.00, 0.76]
	4.	Self-esteem	.109	*ns*	[0.06, 1.67]
	5.	Give	.095	.05	0.10, 1.22]
Machinery Operator or Driver	1.	Meaning and purpose	.265	.05	[0.81, 4.24]
	2.	Self-esteem	.233	.05	[0.26, 3.12]
	3.	Autonomy	.224	.05	[0.76, 2.99]
	4.	Relationships	.191	*ns*	[0.30, 1.62]
	5.	Satisfied current job	.176	.05	[-0.08, 1.18]
Labourer	1.	Meaning and purpose	.257	.05	[1.20, 3.62]
	2.	Self-esteem	.223	.05	[0.82, 3.31]
	3.	Use of strengths	.188	.05	[0.47, 3.52]
	4.	Autonomy	.148	.05	[0.26, 2.24]
	5.	Give	.145	.05	[0.3374, 1.0]

As depicted in Table 15, the factors most strongly associated with the Flourishing Scale scores for the majority of occupations were meaning and purpose (i.e. "I feel what I do is valuable and worthwhile") and self-esteem (i.e. "In general I feel very positive about myself"). As indicated in

Figure 8, the five factors most commonly associated with flourishing among the occupational groups were meaning and purpose, self-esteem, relationships themes, use of strengths, and give.

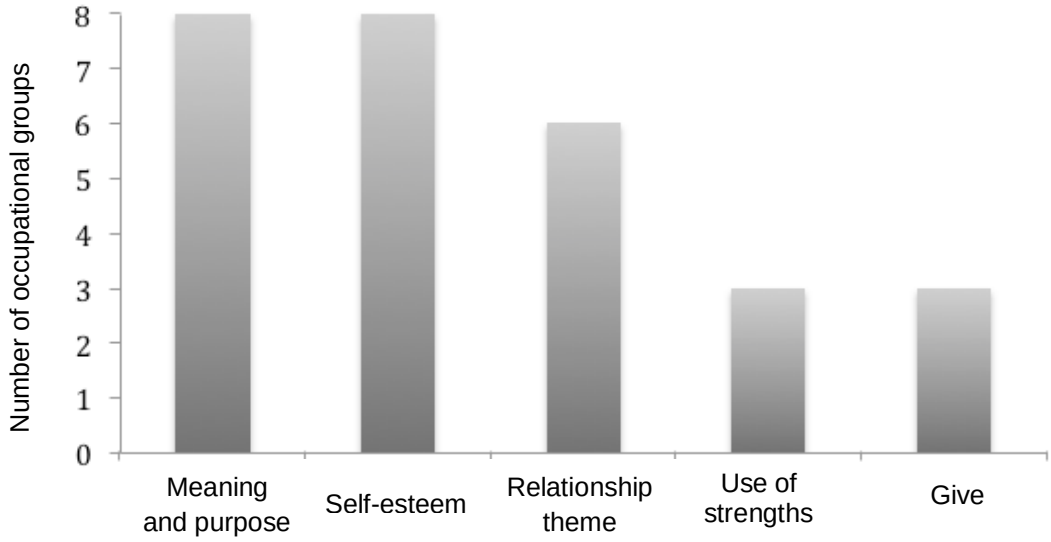


Figure 8. Strongest factors associated with flourishing across occupational groups

The results also indicate that the factors most strongly associated with the Flourishing Scale score are different across occupational groups (refer to Table 15). Next we investigated the prevalence rates of job satisfaction (a more specific contextual wellbeing outcome than flourishing) across the eight occupational groups, using a similar analysis strategy. The Kruskal–Wallis test revealed a significant difference in job satisfaction between occupational groups, x2 (7, n = 5,186) = 103.43, p < .001. Table 16 displays the median and interquartile range (IQR) job satisfaction scores for each occupation, displayed from highest to lowest median job satisfaction score rank.

Table 16

Ranked Job Satisfaction Score for Each Occupational Group

Occupation	*n*	*Md (IQR)*
Manager	699	7.0 (2)
Professional	1,517	7.0 (2)
Community or Personal Service Worker	362	7.0 (3)
Machinery Operator or Driver	229	7.0 (3)
Clerical or Administrative Worker	940	7.0 (3)
Technician or Trade Worker	573	7.0 (3)
Sales Worker	475	6.0 (4)
Labourer	391	6.0 (4)

Having established that there were significant differences between occupations, Mann–Whitney U tests (with Bonferroni corrections) were conducted to examine the individual differences between the occupational groups. Table 16 displays the z scores, statistical significance, and Cohen's d effect size ($r = z/\sqrt{N}$) for each occupational group. The effect sizes are displayed from highest to lowest value. As indicated in Table 17, the biggest differences in the median job satisfaction scores between occupational groups were between labourers and all other occupations.

Table 17

Ranked Differences in Median Job Satisfaction Scores for Each Occupational Group

Occupation		*z*	*ES*	Sig.
Manager	Sales Worker	−7.050	0.206	0.01
	Labourer	−6.374	0.193	0.01
	Clerical/Administration	−5.807	0.143	0.01
	Technician/Trade	−2.804	0.079	0.01
	Community/Personal Service	−1.535	0.047	*ns*
	Professional	−1.913	0.041	*ns*
	Machinery Operator/Driver	−.669	0.022	*ns*
Professional	Labourer	−5.868	0.236	0.01
	Sales Worker	−6.572	0.15	0.01
	Clerical/Administration	−5.114	0.144	0.01
	Technician/Trade	−1.517	0.139	*ns*
	Machinery Operator/Driver	−.436	0.098	*ns*
	Community or Personal Service	−.320	0.026	*ns*
Technician/ Trade Worker	Labourer	−4.014	0.154	0.01
	Community or Personal Service	−.786	0.107	*ns*
	Sales Worker	−4.373	0.024	0.01
	Clerical/Administration	−2.643	0.01	*ns*
	Machinery Operator/Driver	−1.233	0.005	*ns*
Community/ Personal Services	Labourer	−4.179	0.248	0.01
	Sales Worker	−4.488	0.133	0.01
	Machinery Operator/Driver	−.430	0.103	*ns*
	Clerical/Administration	−3.040	0.096	0.01
Clerical/ Administrative	Labourer	−2.063	0.15	*ns*
	Sales Worker	−2.245	0.054	*ns*
	Machinery Operator/Driver	−3.026	0.001	*ns*
Sales Worker	Machinery Operator/Driver	−4.287	0.029	0.01
	Labourer	−.066	0.129	*ns*
Machinery Op./ Driver	Labourer	−3.970	0.153	0.01

Similar to flourishing, some occupations had higher job satisfaction than others. Therefore, we investigated whether there was a unique recipe for job satisfaction for each occupational group. A series of standard multiple regression analyses were used to assess the ability of lifestyle, health, psychosocial, satisfaction with major life domains, and work-related factors to predict levels of job satisfaction for workers in eight separate occupation groups. The dependent variable was the SWI item that was based on one item from the New Zealand Health Survey, “All things considered, how satisfied are you with your present job?” (Ministry of Health, 2006/07). Participants used a Likert scale to answer this question (0 = extremely dissatisfied, to 10 = extremely satisfied).

Prior to conducting the regression analysis, an analysis of standard residuals was carried out on

the data to identify any extreme outliers. Overall, 14 of the 5,216 participants had standardised residual values above about +/− 3.3, and were removed. An examination of correlations revealed that no independent variables were highly correlated, and the collinearity statistics were all within accepted limits. The assumption of multicollinearity was deemed to have been met, suggesting that all scales were measuring independent constructs. A significant ($p < .001$) regression equation was found across occupational groups, demonstrating that the items selected for the regression analysis were able to predict a large proportion of the variance in job satisfaction scores for each occupation.

Next we examined which of the lifestyle, health, psychosocial, satisfaction with major life domains, and work-related factors explained the highest amount of variance in job satisfaction scores for each separate occupational group. Beta weights were used to identify the top five largest factors of the 31 possible. Table 18 illustrates results by occupational group, and then from highest to lowest from the top 5 of 31 beta weights.

Table 18

The Five Items that Explain the Greatest Amount of Variance in Job Satisfaction Scores for Each Occupational Group

Occupation	Factor		Beta	Sig.	95% CI
Manager	1.	Work–life balance	.574	.05	[0.45, 0.62]
	2.	Satisfied with religion	.187	.05	[0.05, 0.22]
	3.	Engaged	.174	.05	[0.09, 0.33]
	4.	Resilience	.089	.05	[0.01, 0.35]
	5.	Socialise	.079	.05	[0.00, 0.23]
Professionals	1.	Work–life balance	.421	.05	[0.36, 0.47]
	2.	Satisfied with education	.176	.05	[0.13, 0.63]
	3.	Engaged	.170	.05	[0.13, 0.28]
	4.	Meaning and purpose	.165	.05	[0.31, 0.66]
	5.	Autonomy	.066	.05	[0.03, 0.29]
Technician or Trade Worker	1.	Work–life balance	.450	.05	[0.36, 0.58]
	2.	Engaged	.159	.05	[0.05, 0.33]
	3.	Meaning and purpose	.156	.05	[0.11, 0.69]
	4.	Satisfied with friends	.155	.05	[0.03, 0.29]
	5.	Social support	.106	.05	[0.04, 0.39]
Community or Personal Service Worker	1.	Work–life balance	.497	.05	[0.34, 0.57]
	2.	Give	.139	.05	[0.05, 0.59]
	3.	Satisfied with family	.137	.05	[0.01, 0.25]
	4.	Satisfied with friends	.136	*ns*	[-0.02, 0.26]
	5.	Use of strengths	.091	*ns*	[-0.13, 0.67]
Clerical or Administrative Worker	1.	Work–life balance	.489	.05	[0.43, 0.59]
	2.	Engaged	.254	.05	[0.21, 0.43]
	3.	Meaning and purpose	.122	.05	[0.09, 0.58]
	4.	Satisfied with friends	.112	.05	[0.02, 0.23]
	5.	Social support	.087	*ns*	[-0.01, 0.29]
Sales Worker	1.	Work–life balance	.514	.05	[0.42, 0.65]
	2.	Meaning and purpose	.273	.05	[0.40, 1.14]
	3.	Engaged	.198	.05	[0.08, 0.40]
	4.	Satisfied with education	.127	.05	[0.02, 0.25]
	5.	Satisfied with intimate relationships	.111	*ns*	[-0.00, 0.17]
Machinery Operator or Driver	1.	Work–life balance	.603	.05	[0.44, 0.84]
	2.	Appreciated	.205	*ns*	[-0.07, 0.48]
	3.	Satisfied with politics	.176	.05	[0.01, 0.29]
	4.	Use of strengths	.158	*ns*	[-0.17, 1.04]
	5.	Meaning and purpose	.154	*ns*	[-0.16, 1.10]
Labourer	1.	Work–life balance	.591	.05	[0.49, 0.76]
	2.	Absorbed	.230	.05	[0.12, 0.48]
	3.	Meaning and purpose	.190	.05	[0.17, 0.95]
	4.	Feel respected	.135	*ns*	[-0.00, 0.52]
	5.	Self-esteem	.087	*ns*	[-0.16, 0.66]

Figure 9 indicates that the factor most strongly associated with job satisfaction for all occupations was work–life balance (i.e. “All things considered, how satisfied are you with the balance between the time you spend on your paid work and the time you spend on other aspects of your life?”). There were two other factors that were commonly associated with job satisfaction among the occupational groups: meaning and purpose (i.e. “I feel what I do is valuable and worthwhile”) and engagement (i.e. “How much of the time would you generally say you are absorbed in what you are doing?”). However, the results also indicate that the factors most strongly associated with the job satisfaction score are different across occupational groups (see Table 18).

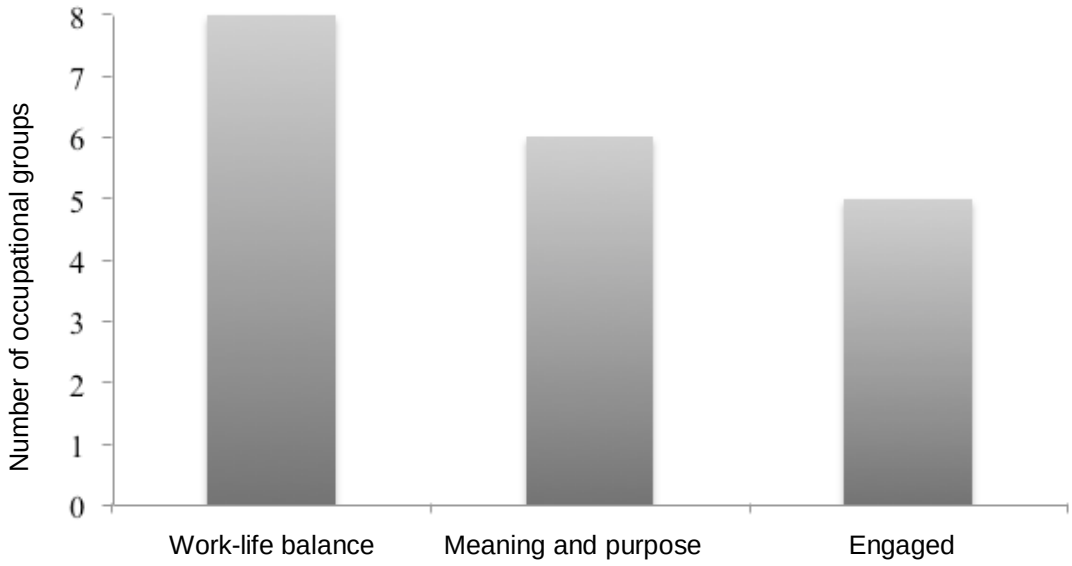


Figure 9. Strongest factors associated with job satisfaction across occupational groups

Results of the analysis also reveal that the factors most strongly associated with flourishing (a global measure of wellbeing) differ from the factors most strongly associated with job satisfaction (a specific contextual wellbeing outcome); refer to Figures 8 and 9. For instance, work–life balance was the strongest factor associated with job satisfaction across occupational groups, yet it was not strongly associated with flourishing for any occupational group. In contrast, meaning and purpose had strong associations with both flourishing and job satisfaction for most occupational groups. The results indicate that different factors may be associated with different aspects of wellbeing.

6.1.6 Discussion

Interested in exploring the impact of occupational context on the experience of, and factors involved in, flourishing and job satisfaction, in the present study we compared flourishing and job satisfaction between different occupational groups of New Zealand workers. We found evidence to suggest that the prevalence of flourishing and job satisfaction differed among the eight different occupational groups, but more so for flourishing. The most notable differences were for managers and professionals, who experienced higher flourishing (and job satisfaction)

than sales workers or labourers. Given that flourishing scores varied in line with occupational status, it appears that flourishing may also be a factor involved in the health gradient, which refers to health differences that correspond with occupational status (Marmot, 2004).

González, Swanson, Lynch, and Williams (2016) also attributed the health gradient to workers meeting their basic psychological needs. R. M. Ryan and Deci (2000) referred to workers' basic psychological needs as autonomy, relatedness, and competence, which they termed self-determination. González et al. (2016) explored the role of self-determination in four occupational groups: executive and management, supervisor, clerical/skilled non-manual and manual. They found that with each incremental step in the occupational hierarchy there was a corresponding increase in workers' self-determination, which corresponded with more positive health outcomes. It appears that occupational context may play a role in supporting workers' basic psychological needs, and in turn facilitate their overall health and wellbeing.

When people meet their needs for self-determination they are more likely to experience psychological growth, health, wellbeing and job satisfaction (Deci et al., 2001; Lynch Jr., Martin, Plant, & Ryan, 2005; R. M. Ryan & Deci, 2000). To that end, workplaces should consider ways to increase self-determination in their staff, particularly those lower in the occupational hierarchy. Research shows that workplaces can improve workers' self-determination. For instance, a management style that supports autonomy in the workplace has been linked with the experience of self-determination in employees (Gagné & Deci, 2005). Employees who are empowered to informally change their work activities so that they align closely with their intrinsic desires, interests, and values experience greater self-determination (Slemp & Vella-Brodrick, 2014). People who set goals that express their enduring interests and values, such as self-concordant goals, also experience self-determination (Sheldon & Elliot, 1999).

We next investigated whether there was a unique recipe for flourishing and job satisfaction in different occupations. We found that each occupation does have a unique recipe. Based on the size of the beta weights, each occupation had two core ingredients for flourishing: meaning and purpose, and self-esteem; and one core ingredient for job satisfaction: work–life balance. But just as any recipe requires more than core ingredients for it to be a success, the same can be said of employee wellbeing. Results of the current study demonstrate that each occupation has a unique set of factors that are associated with flourishing and job satisfaction.

The existence of a unique recipe for flourishing and job satisfaction in each occupational group suggests that a 'one size fits all approach' may not be an ideal way to approach employee wellbeing. Indeed, Spence (2015) reported that one reason for low utilisation rates in Australian Employee Assistance programs is that the programs do not target the actual needs of the employees. Moreover, Dickson-Swift et al. (2014) reported that employees cited a one size fits all approach to employee wellbeing programs as a barrier to service use. The developing positive psychological intervention literature suggests an intervention fit between the person and intervention to cater for people's unique needs (Slemp, Kern, & Vella-Brodrick, 2015).

To overcome a one size fits all approach to employee wellbeing, it is recommended that organisations conduct a wellbeing needs assessment to identify employee needs and the key drivers of their wellbeing to help guide their wellbeing policy and choices. Indeed, occupational wellbeing experts state that a 'wellbeing needs assessment' is the critical first step of any wellbeing intervention, as it informs who and what the intervention should target and identifies potential barriers to lasting change (Maneotis & Krauss, 2015). Moreover, Cooper (2015) recommended that stakeholders also be involved in the design of wellbeing initiatives to ensure their ongoing success.

Despite the fact that different factors were associated with flourishing, meaning and purpose explained the most variance in flourishing scores across occupational groups. The finding is consistent within the literature as workers consistently identify meaningful work as one of the essential features that they seek out in a job, ahead of income, job security, promotions, and hours (Casio, 2003; Michaelson, Pratt, Grant, & Dunn, 2014). Industry groups also recognise that to be an employer of choice, organisations must enable their employees "to do meaningful work, while offering opportunities for personal growth and autonomy" (Harvard Business Review, 2013, p. 1). The results of the current study provide support for these recommendations.

Following the Pareto Principle (the 80–20 rule), workplaces may benefit most from focusing efforts on what matters most to employees, such as increasing opportunities for meaning and purpose (Koch, 2011). Job crafting is a simple yet effective process to enhance the meaning and purpose that people experience in their jobs (Wrzesniewski & Dutton, 2001). Job crafting occurs when employees are empowered to change aspects of their jobs, such as their tasks or relationships, to meet their psychological needs better. In doing so, employees experience more meaning and engagement in their work, which has the effect of generating the resources to better meet their job demands (Tims, Bakker, & Derks, 2013). For example, in the current study, community/personal service workers' flourishing scores were correlated highly with 'providing support and help to other people' ($r = .41$, $p < .05$). Empowering these workers to craft creative ways that they could 'give' to others may have profound effects on their wellbeing and work performance.

The core association with job satisfaction was work–life balance, which was by far the top contributing factor for all employees. This finding is somewhat consistent with the literature in that workplace flexibility is highly valued by employees and related to increased job satisfaction (Dickson-Swift et al., 2014; Haar, Russo, Suñe, & Ollier-Malaterre, 2014). Surprisingly, however, the work–life balance did not share as much variance with flourishing scores for all workers. The result is unexpected given that work–life balance is strongly linked with employee health and wellbeing (Greenhaus & Powell, 2006). One explanation relates to the study only using one question to assess work–life balance. Nonetheless, the strength of the association between work–life balance and job satisfaction in this and other studies suggests that human resource

(HR) personnel should investigate meaningful ways to increase workplace flexibility, such as family-friendly policies, flexible work hours, and job sharing (Zheng, Molineux, Mirshekary, & Scarparo, 2015). Such efforts may have a more significant impact than focusing on the specific aspects of the job or other incentives, such as increased pay, or training opportunities (Warr, 2002).

Lastly, it may be necessary for organisations to concentrate on more than one outcome for their wellbeing initiatives. In the current study, while work–life balance was strongly associated with job satisfaction across occupational groups, it did not have the same impact on flourishing scores. However, meaning and purpose was strongly associated with both job satisfaction and flourishing. As flourishing and job satisfaction scores were somewhat, but not completely, correlated (r = .47), organisations may need to consider both factors in their wellbeing initiatives.

Limitations

There are several limitations to the current study. These include the non-specific nature of many questions asked. For instance, to assess participants' experience of meaning and purpose they were asked the extent to which they agreed with the statement "I generally feel that what I do in my life is valuable and worthwhile". The question is not explicitly related to the workplace, and it may be that participants derive meaning and purpose in other facets of their life, such as their children, which affected the results. A scale such as Steger, Dik, and Duffy's (2012) Work and Meaning Inventory would be more appropriate. Secondly, because of the broad nature of the eight occupational groups, such findings may not be generalisable to more specific occupational groups. Future research would benefit from exploring the unique recipe for wellbeing in more specific occupational groups. Lastly, the cross-sectional and correlational study design prevents us from making causal conclusions. While our findings indicate that there are core and unique factors associated with employee flourishing and job satisfaction, we cannot be sure that these indicators cause flourishing or job satisfaction. Future investigations would benefit from examining such factors in longitudinal studies. Despite the limitations, the current findings are consistent with the literature, suggesting that the study makes a valuable contribution to the field of occupational wellbeing.

6.1.7 Conclusion to the paper

Employee wellbeing is valuable, and there are benefits to promoting positive wellbeing in all workplaces. However, to positively influence flourishing and job satisfaction, a shift in focus is required away from a one size fits all approach to a more strategic and tailored approach to employee wellbeing. By conducting comprehensive wellbeing needs assessments, organisational wellbeing initiatives can be tailored to the unique needs and desires of employees in different occupational contexts. Additionally, the current findings suggest that regardless of occupational status, meaning and purpose is essential to experiencing flourishing, just as work–life balance is to job satisfaction. Empowering employees to informally craft aspects of their job may be a powerful way to increase meaning and purpose and allow for more workplace flexibility. While this study has provided some unique insights into how employees

experience flourishing and job satisfaction, further research that examines the individual pathways to wellbeing in specific occupational groups is warranted.

6.2 Postscript

The findings of the quantitative study demonstrate that different factors were associated with wellbeing for people who work in different occupational contexts. However, one notable exception was meaning and purpose. The primary factor associated with global wellbeing for all occupational groups was meaning and purpose. Meaning and purpose was also associated with work wellbeing for most occupational groups. Beyond meaning and purpose, different factors were associated with wellbeing for each occupational group.

The findings from the quantitative study raise an interesting question about first responder wellbeing. If the experience of meaning and purpose promotes wellbeing, why are first responders experiencing poor wellbeing? The emergency services is by nature a helping profession with abundant opportunities to enact a sense of meaning and purpose. However, first responders experience higher rates of physical and psychological ill-being than other occupational groups and the general population (Berger et al., 2012; S. Johnson et al., 2005; Stanley et al., 2016). As there is little knowledge about how first responders experience wellbeing, from their perspective, it is difficult to explain this finding.

The next study in this thesis seeks to explain the quantitative findings in an emergency service context. The aim of the study was to investigate the what, why, and how of first responders' wellbeing. In doing so, I aimed to explain the relationship between *meaning and purpose* and *wellbeing* in a first responder cohort. By explaining the what, how, and why of first responders' wellbeing, we can develop more targeted wellbeing initiatives for the emergency services. I have specifically selected grounded theory methods in the qualitative study to meet the research aims and objectives. New knowledge about first responder wellbeing can be used by emergency service organisations to inform wellbeing policy and help make decisions about which wellbeing interventions are appropriate for first responders.

Chapter 7. Findings from the qualitative study

The aim of this research program was to investigate what workers experience as wellbeing in different occupational contexts, and how first responders experience wellbeing in the context of the emergency services. The previous chapters have described the mixed methods used to answer the research questions. This chapter uses the findings of the research process so far to present the outcome of the grounded theory (GT) study, as outlined in chapter five.

The chapter first provides an overview of the theory titled the *heart of wellbeing* in section 7.1. The following sections present the three main categories that explain how participants enacted wellbeing in the emergency services. Section 7.2 describes the first main category titled “striving to achieve my why”. Section 7.3 describes the second main category titled “building a toolbox” and incorporates an article submitted for publication. Section 7.4 presents the third main category titled “using skills to achieve my why”, which concludes the process of the *heart of wellbeing* theory.

7.1 The theory: The *heart of wellbeing*

The theory constructed from this study is the *heart of wellbeing*. This section uses a storyline technique to first provide an overview of the *heart of wellbeing* theory (Ward, Gott, & Hoare, 2017b). Storyline is a recognised technique for presenting GT findings (Birks & Mills, 2015; Ward et al., 2017a). Figure 10 depicts the theory’s main categories and subcategories, which are elaborated on in the subsequent chapters of this thesis. In the following text, the categories are in **bold**, and the subcategories are *italicised*.

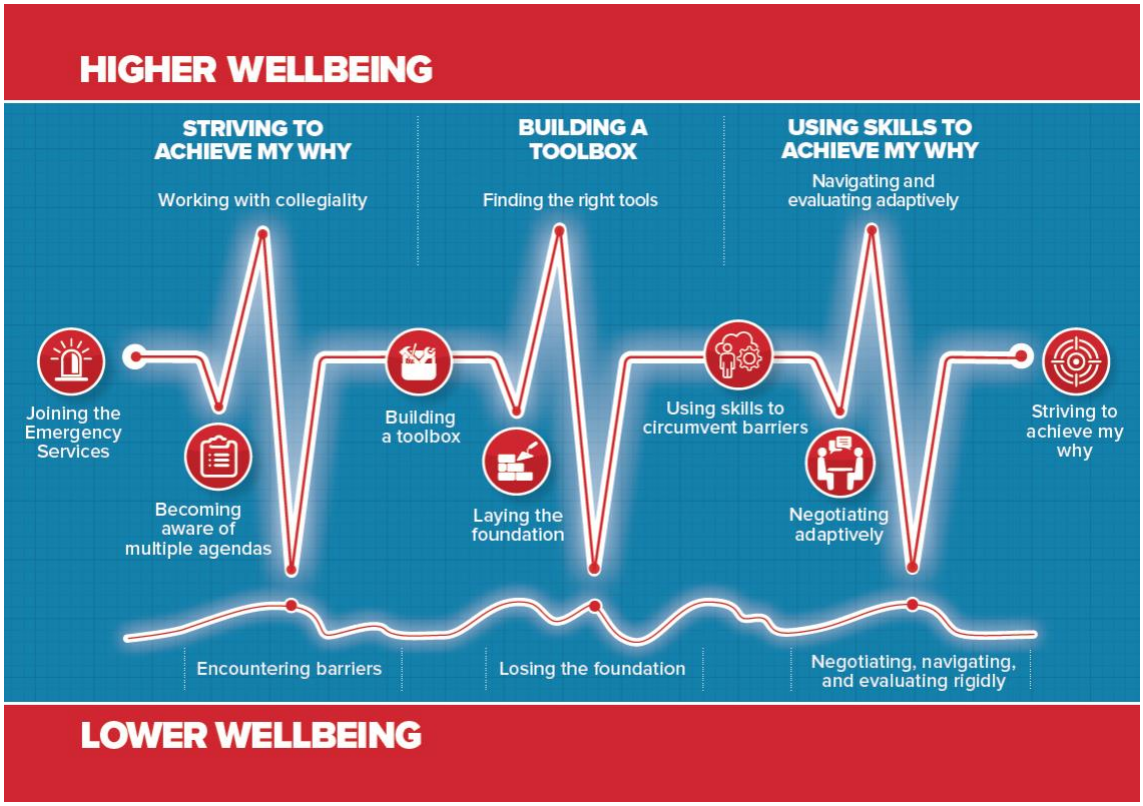


Figure 10. Model of the heart of wellbeing theory

The *heart of wellbeing* theory uses the electrical tracing of a heartbeat to illustrate how wellbeing is a continual and iterative process, as shown in Figure 10. The normal heart rhythm represents first responders who are experiencing wellbeing and achieving their why. They iterate between **striving to achieve their why**, **building a toolbox**, and **using skills to achieve their why**. The abnormal heart rhythm represents first responders who lack the tools, and skills, to overcome and circumvent barriers to achieve their why, experiencing lower wellbeing as a result. The following storyline describes the three main categories in the *heart of wellbeing* theory: **striving to achieve my why**, **building a toolbox**, and **using skills to achieve my why**.

7.1.1 Storyline

Striving to achieve my why

All first responders reported their reasons and values, their 'why', for *joining the emergency services* with clarity, as it represented their values and needs, and gave them meaning and purpose in life. Upon *joining the emergency services,* first responders began **striving to achieve their why**. In the process, they reported *becoming aware of multiple agendas*. Other people's agendas became evident through their work, as did the political and organisational agendas inherent within the emergency service systems. At times the various agendas were compatible, which generated a sense of collegiality among co-workers. The first responders trusted that their co-workers' agendas were prosocial, rather than self-serving. *Working with collegiality* made it easier for first responders to achieve their why. However, typically, first responders described working with conflicting agendas, which generated tension among co-

workers. The conflict caused barriers that prevented first responders from achieving their why. *Encountering barriers* precipitated the process of **building a toolbox** to deal with the barriers.

Building a toolbox

When first responders initially *encountered barriers,* they looked for ways to overcome them. By *laying a foundation* of tools, first responders could begin to overcome the barriers. Tools were foundational when they helped first responders to build other tools. For instance, working with good co-workers enabled first responders to build tools such as camaraderie and collegiality, which served to mitigate barriers and build more tools. A strong foundation of tools helped first responders to build a more refined toolbox, which was used to overcome a broad range of changing barriers. The types of tools first responders needed depended on their why, and the perceived barriers to their why. For instance, first responders whose why was to make a difference in their community perceived different barriers and needed different tools from those of first responders whose why was to gain a promotion. *Finding the right tools* was the next stage in **building a toolbox**. First responders' why, and consequently perceived barriers, changed during their careers. The first responders used different tools to overcome these barriers. *Finding the right tools* was, therefore, an iterative process as first responders continually adjusted how they achieved their why. Sometimes foundational tools were unavailable. *Losing foundational tools* compromised participants' ability to build and *find the right tools* to overcome barriers to achieving their why. When first responders had a strong toolbox, they were ultimately more successful in achieving their why. Tools reported by study participants were tangible and intangible. Tangible tools included working with good co-workers, education, experience, and psychologists. Intangible tools included clarity of purpose, trust, perspective, and confidence. Tools gave participants the skills to overcome and circumvent barriers to achieving their why.

Using skills to achieve my why

As first responders gained experiences, they developed *negotiating*, *navigating*, and *evaluating skills* to circumvent barriers to achieving their why. First responders *negotiated their why* with other people or the system by playing the game, asserting their why, creating new opportunities, or staying under the radar. First responders *navigated* towards a why that matched their values and needs by maintaining clarity of purpose, "finding my why", changing direction, and finding a compensatory why. In the process of *negotiating and navigating*, first responders also *evaluated success.* They used *intrinsic and extrinsic markers of success* as evidence that they had achieved their why. First responders with a stronger toolbox had more *skills* and *adapted their skills* to each new situation. First responders with a weaker toolbox had fewer skills and used the same *skills rigidly,* irrespective of their situation. *Skills* determined how often first responders achieved their why.

The sections below elaborate on the details of the above storyline. In the following text, participants' comments are used to support and evidence category construction in the findings section, which are indicated by quotation marks. Where possible, I have maintained the

verbatim nature of participants' words to preserve the integrity of what they reported and to demonstrate analytical rigour. Insertions to assist clarity are denoted by square brackets. Omitted text is denoted by ellipses contained in square brackets. The participants are anonymised throughout each section.

7.2 Main category 1: Striving to achieve my why

The first main category describes first responders' journey in **striving to achieve their why** in the emergency services. Upon *joining the emergency services*, first responders started *becoming aware of multiple agendas*. First responders recognised when they were working with collegial agendas and working with conflicting agendas. *Working with collegiality* supported first responders in the process of **striving to achieve their why**. Conversely, working with conflicting agendas generated barriers that interrupted the process of first responders **striving to achieve their why.** *Encountering barriers* happened throughout first responders' careers. First responders were more likely to encounter barriers than collegiality while working in the emergency services. Consequently, they were always **striving to achieve their why**.

7.2.1 Joining the emergency services

First responders all described reasons for *joining the emergency services* that were based on their values, beliefs, and needs at the time they joined. Six first responders referred to these reasons as their "why" (P4, P7, P11, P12, P23, P24). First responders wanted to become first responders for different reasons. P16 expressed her why as a "calling", whereas others revealed a more pragmatic why, such as a good roster, stable employment, or good pay (P9, P12, P19). P1 said that her why was to "help society", whereas P10 joined to develop himself professionally and personally.

First responders said that when *joining the emergency services,* they had an expectation of what the job was going to be like, and what they hoped to achieve as a first responder. For instance, first responders who wanted to help society said, "you go in there thinking that you're going to be able to change the world" (P1). First responders reported **striving to achieve their why** as soon as they *joined the emergency services*. However, after *joining the emergency services*, first responders started the process of *becoming aware of multiple agendas*, which affected how they **strived to achieve their why**.

7.2.2 Becoming aware of multiple agendas

First responders reported realising that they were operating in a system once they began work in the emergency services. P11 likened the system to plaited hair:

> Each strand of hair is a system. When you pull some strands together, each strand of the plait, you make some larger systems, and then the plait itself also becomes a system. The systems can be things such as policy, procedures, government laws, ethical standards, code of conduct, regulations, government/political agendas, manager's agendas, public expectations.

Most first responders referred to the concept of system, either directly or indirectly, as evidenced in Table 18.

Table 19

Participants' Comments about Operating in a System

Participants' comments about the system	Participant
"They knew how to ride the system"	P1
"The promotion system"	P5
"Working within the system"	P9
"The system lets people down"	P14
"Audit systems"	P16
"The overall police system"	P18
"The justice system"	P1, P2, P7, P9, P10, P18
"This big thing [system]"	P4
"The policing machine"	P6

First responders all described *becoming aware of multiple agendas*, both within and outside the system. Outside the system, agendas came from family and friends. P10 said that his wife hated him sleeping after night shift as "she thought it was a waste of a day when we could be out doing stuff". Family and friends wanted to spend time with first responders, but their work schedule often prevented them from attending social events. Within the system, agendas came from managers, peers, and subordinates. In regard to co-workers' agendas, P12 said:

> When I work with someone who is doing three jobs, and he turns up for night shift after he's just worked 6–7 hours at another job, then I think he's here just to make as much money as he can and get out.

P9 described a subordinate who was quite influential within his team and created "roadblocks" to him achieving team goals. P9 said, "she does a lot of underhanded stuff to discredit me". P6 believed his supervisor was only interested in self-promoting and that his supervisor put his own interests first. P6 stated, "There were those [supervisors] who relied on you to perform well so they could seek advancement in the policing machine. Your benefit to them was only in your performance".

The study participants also described the media, public, and lawyers' agendas. P1 said that "the relentless abuse by the media causes huge depression on people in the job, coz there is nothing worse than when people run down the police when they're putting their heart and soul into the job". The public's agenda was spoken about by 11 of the first responders interviewed in this study. For instance, P16 said, "I come up against a whole raft of expectations, from people [public] who apologise profusely for calling, to those who ask why we've taken so long". All

police officers spoke about the defence lawyers' agenda, which commonly conflicted with the police agenda of incarcerating perpetrators.

First responders reported that the emergency service systems created agendas within the organisation. System agendas arose from budgets, staffing, policies, and performance indicators. For instance, P2 reported that because of a lack of staffing he was continually removed from a job that he loved, in Community Policing, and seconded to a job that he hated, court escort work. First responders said that the systems created job roles that forced the incumbents to behave in certain ways. P14 acknowledged, "they [quality managers] have become bogged down with administrative tasks, and they've turned into these bad guys that deal with the complaints". One participant even said that organisational culture also expressed itself as a system agenda. P1 reported that as a result of historical events the policing culture had become more professional. According to P1, the increased professionalism of the police had disrupted camaraderie among staff. She said, "I know that the culture had to become more professional, but it's taken some of the fun out of the job. You used to have fun with your colleagues, but that's all frowned upon now". P1 acknowledged that she used camaraderie as a tool to help her achieve her why.

After *becoming aware of multiple agendas*, first responders began identifying compatible agendas. Compatible agendas generated a sense of collegiality among work teams. Consequently, *working with collegiality* created conditions that supported first responders **striving to achieve their why**.

7.2.3 Working with collegiality

First responders consistently spoke positively about working with people who had values and reasons for working in the emergency services similar to their own. Participant 15 spoke about the benefits of "being on the same wavelength". Participant 11 stated that he enjoyed working with people "who have a mutual appreciation of the job". For instance, they were there to help other people and help each other. Co-workers who shared prosocial motives for working as first responders were said to develop collegiality in their workplace. First responders described collegiality as "working towards the common goal" (P9) and "having the right people in the right place for the right reasons" (P12). Most first responders spoke of aligned work goals with their colleagues: to help people.

Participants reported that *working with collegiality* meant trusting that co-workers' agendas were prosocial, rather than self-serving. In other words, first responders trusted that the decisions and actions of others were in pursuit of a common purpose, and not to serve one person or group more than another. *Working with collegiality* supported first responders in **striving to achieve their why**, rather than resolving conflict with others. P6 said, "You had a job to do, but he [sergeant] made sure everyone was looking after each other [...] You knew that he'd back you up and he wasn't going to walk on anyone to get where he wanted to go".

Collegiality created the conditions for first responders to perform well in their jobs. First responders acknowledged that when they worked effectively as first responders, it made them feel more capable of achieving their why. P19 acknowledged that competent co-workers helped him to work effectively as a firefighter. P19 stated:

> It's good when [co-workers] want to be firefighters because you can rely on them, competency wise. The people who're there just for a second job aren't as interested. They don't make as much of an effort in training [...] so they're not as competent as people who want to be there. And you rely on people being competent in the fire brigade to do your job and to be safe doing it.

A psychologist who works with first responders also recognised that collegiality was a significant factor in first responders achieving their why. P17 said:

> It's being in a supportive workplace where they want the best for one another. Or a collaborative culture exists where they really team together and see it as a united front. In other workplaces, they don't want to show anyone else their stuff, because they think, "this is going to get me promoted above you". So there's this kind of competition against one another.

Eight first responders said that working with collegiality created a positive station atmosphere, it increased camaraderie among co-workers, and was directly related to their wellbeing.

One participant, a station officer, reported that management agendas often created situations that threatened collegiality. Indeed, he said that "young people need to learn how to manage the management because that's the stressor, it's not the nuts and bolts of the job" (P21). The participant went on to say that he expects management to bring teams together but instead that there is "a total disconnect between the management and the firefighters". When the participant inherited a team of members on different workplace contracts, some on union contracts and some not, he recognised the need to create collegiality within the team. P21 said:

> So I made sure that we were a unit, and we socialised together, and we did things together. We just made it work. In the end, the other teams were envious because we were having fun and they were all still sitting around moaning and groaning.

Despite the value that first responders placed on *working with collegiality*, it was infrequently experienced. First responders said that they worked with conflicting agendas far more frequently and that this generated barriers to them achieving their why.

7.2.4 Encountering barriers

When first responders experienced conflicting agendas, it generated barriers to them achieving their why. The barriers diverted first responders' efforts away from **striving to achieve their why**, and instead to resolving the conflict.

Conflict arose when the agenda of another person, or a system requirement, took precedence over the first responders' why. First responders reported many different experiences of conflict. For instance, first responders could not advance their careers because they did not meet the criteria for promotion or specialist jobs. Police officers reported working hard to incarcerate offenders but were sometimes unsuccessful because of the actions of defence lawyers. Firefighters wanted autonomy to fight fires or perform training drills in the way they know best, but workplace policies and politics impeded their goals. Paramedics wanted to learn from

mistakes but felt unsafe to do so because of a punitive workplace culture. First responders repeatedly described experiences such as these. Further, first responders described when circumstances required them to act in ways that went directly against their why. P7 highlights, “Every single day, you’ll be dealing with circumstances where you think, ‘actually this is not in line with my values’. We often act well outside of our values, and that makes us really unwell”.

Conflicting agendas resulted in barriers that prevented first responders from directly achieving their why. The barriers were described as “roadblocks” by P9. In the following instance, P16 was unable to fulfil her needs as a paramedic because her why conflicted with her co-worker’s agenda:

> She'd been a paramedic for years. She was probably bored, tired, and stressed out. Whereas I was keen, wanting to learn and go that extra mile, but she didn't want to. If we did a job together, she would want to dump and run, whereas I would want to stay with the patient. That used to rile her, and that used to rile me. But because I was the underdog, I couldn’t do much about it.

Participants described barriers as tangible and intangible. Tangible barriers were objective roadblocks that directly stopped first responders from achieving their why. For example, P10 wanted to become a dog handler in the police, but because of the high competition, he was unable to pursue this goal. Intangible barriers were subjective roadblocks that indirectly stopped first responders from achieving their why. For example, almost all first responders in this study used camaraderie, trust, and collegiality among their team as resources to achieve their why. The absence of these factors were intangible barriers that indirectly impaired their ability to achieve their why. First responders also created their own barriers. Most first responders reported having more than one why, and sometimes they came into direct conflict, for example, when a career goal interfered with a family goal.

In summary, upon *joining the emergency services,* first responders started a process of *becoming aware of multiple agendas*. *Working with collegiality* supported first responders in **striving to achieve their why**. Working with conflicting agendas generated barriers that interrupted first responders from achieving their why. *Encountering barriers* was an ongoing process as first responders encountered different barriers throughout their careers. First responders developed different tools and skills to overcome the barriers as they **strived to achieve their why**. In the next section the main category, **building a toolbox**, illustrates how first responders used specific tools to overcome barriers.

7.3 Main category 2: Building a toolbox

The second main category describes the process of **building a toolbox**. After encountering barriers, participants started to build a toolbox by *laying a foundation* of tools. Once participants had laid the foundation, they could build more tools, which enabled them to overcome new barriers in more sophisticated ways. A strong toolbox enabled participants to *find the right tools* to overcome new barriers. Participants who lost their foundational tools were unable to build new tools, and were less able to overcome barriers and strive to achieve their why.

The following manuscript was submitted to the *Australian Journal of Psychology* on 2 May 2018, see Appendix A. The article details are:

> Hamling, K., Ward, K., & Heale, D. Wellbeing in the emergency services: Findings from a grounded theory study. Submitted to the *Australian Journal of Psychology* on 2 May 2018.

ARTICLE: Wellbeing in the emergency services: findings from a grounded theory study

7.3.1 Abstract

Objective: Emergency service work has a detrimental effect on first responders', and their families', wellbeing. Organisational policies aim to promote first responder wellbeing and prevent operational trauma sequelae. However, limited evidence exists about the meaning of wellbeing as experienced by first responders. This study explores first responder perspectives on wellbeing to guide wellbeing initiatives in the emergency services.

Method: Twenty-five participants were recruited. Data were collected using semi-structured interviews and analysed using grounded theory methods.

Findings: First responders strive to achieve meaning and purpose, identified by study participants as "my why". Systemic barriers consistently hamper their success. First responders overcome barriers to achieving their why by building an individual and team toolbox. Wellbeing is the process of achieving my why.

Conclusion: Foundational tools are needed to help first responders build a toolbox. A strong toolbox enables first responders to overcome specific barriers relevant to emergency service work, to achieve their why.

Keywords: First responders, grounded theory, meaning and purpose, individual and team resilience, wellbeing.

What is already known about this topic:

- Operational stress and trauma negatively affect first responders' wellbeing.
- First responders can develop resilience and growth to operational trauma.
- Organisational stress has a detrimental effect on first responders' wellbeing.

What this topic adds:

- New perspectives about what wellbeing represents to first responders.
- New knowledge on how first responders deal with organisational stress to maintain wellbeing.
- Recommendations on how to protect first responders' wellbeing.

7.3.2 Introduction

Emergency services are the primary source for ensuring "public health and safety by responding to, and preventing, various emergency situations" (Black Dog Institute, 2016, p. 19). Workers in this occupation are often referred to as first responders, and they are a vital part of our

workforce. In Australia and New Zealand, there are three primary emergency services: police, fire, and ambulance. Work in the emergency services is complex and unique (Regehr & Bober, 2005). First responders encounter situations that most other occupational groups do not (Rutkow et al., 2011). An experienced paramedic interviewed in this study said:

> In this job, and police and fire, you have experiences like no other job. You're in people's homes at the best of times and the worst of times. In 22 years I've seen people stabbed, shot, and beaten to death. I have seen parents killed by their children, and children killed by their parents. I've seen it all. (P14)

Although all occupational groups are exposed to some form of work stress, first responders are more exposed than others (S. Johnson et al., 2005). Emergency service work encompasses both operational and organisational job stress (Reynolds & Wagner, 2007). Operational stress arises from exposure to trauma, and organisational stress comes from factors such as bureaucracy or workplace conflict (Regehr & Bober, 2005). The cumulative effect of operational and organisational job stressors creates a unique working environment for first responders (beyondblue, 2016a). Evidence indicates that first responders, and their families, are being harmed by their work (Alrutz et al., 2015; Berger et al., 2012; Duarte et al., 2006). Significant funding has been made available to address first responder wellbeing. For example, in 2017 the New South Wales Government in Australia invested $48 million in paramedic wellbeing (New South Wales Government, 2017).

Wellbeing interventions have historically aimed to prevent operational trauma sequelae via resilience training and psychological debriefing (Devilly, Gist, & Cotton, 2006; Hamling & Jarden, 2016; Shakespeare-Finch, 2007). An emphasis on trauma resilience, however, is no longer plausible given evidence that organisational stress is just as damaging to first responders' wellbeing (Armstrong, Shakespeare-Finch, & Shochet, 2016; Cotton, Hogan, Bull, & Lynch, 2016; Maguen et al., 2009; Tuckey & Hayward, 2011). Despite evidence that developing resilience to organisational stress contributes positively to first responder wellbeing, interventions such as these are not the norm across the industry (LaMontagne et al., 2016; Shochet et al., 2011). First responders have been ill-prepared to proactively manage the cumulative effect of organisational and operational job stressors to maintain their wellbeing (Cotton et al., 2016; LaMontagne et al., 2016).

The literature is replete with information about how first responders stay resilient to, and grow from, traumatic operational experiences (Varker et al., 2018). However, few studies have investigated how first responders deal with organisational stress to maintain their wellbeing. Moreover, little is known about how first responders experience wellbeing from their perspective. Identifying a suitable way to promote first responder wellbeing can therefore be difficult. In this context, the authors chose a grounded theory (GT) approach to explore how first responders experience wellbeing from their perspective. GT uses specific methods to develop an explanatory theory that is grounded in data (Charmaz, 2014). GT is used to develop an in-depth understanding of a phenomenon about which little is known and in which the focus is on the participants' experiences (Ward et al., 2017a).

7.3.3 Methods

The authors used semi-structured interviews and a constructivist GT approach, as described by Charmaz (2014). When little evidence exists, GT addresses gaps in knowledge by using participant accounts to construct an explanatory theory about their actions (Birks & Mills, 2015). Therefore, the coding framework was inductively derived from the data (Ward et al., 2017b).

7.3.3.1 Ethical considerations

Ethical approval for the study was gained from the Auckland University of Technology Ethics Committee, October 2015 (15/391); St John Ambulance, New Zealand, December 2015 (#0058); the Human Research Ethics Committee, October 2016 (HREC#:16/071, HREC/116/POWH/214); and the New Zealand Police, October 2016 (EV-12-376).

7.3.3.2 Participants

Inclusion criteria for the initial purposive sampling were first responders who had worked operationally in New South Wales Ambulance, New Zealand Police, St John Ambulance in New Zealand, or New Zealand Fire Service for a minimum of five years. No exclusion criteria were applied.

In consultation with ethics committees, the primary researcher (KH) used professional contacts to begin purposive sampling. A duty of care was taken to ensure that all potential participants could refuse or withdraw from participation at any time. Potential participants were emailed an information sheet and a written consent document and instructed to email KH if they wanted to participate or ask questions about the research. The email stated that involvement was voluntary, contingent upon a personal desire to participate, and non-participation would not adversely affect the research/er in any way. All participants contacted KH wanting to participate (*n* = 11). Consent was reconfirmed at each contact point to protect participants' rights and allow them to reconsider their involvement. Participants could choose where the interview took place as an additional duty of care measure.

Following initial data analyses, participants were theoretically sampled using a snowball technique (Minichiello, Aroni, & Hays, 2008). Theoretical sampling is a GT technique whereby new participants are identified based on the information they can provide to develop categories and the overall theory (Charmaz, 2014). Theoretical sampling led to the inclusion of participants who had resigned from the emergency services (*n* = 3), remained in junior ranks despite years of service (*n* = 2), worked as firefighters (*n* = 3), or were psychologists and chaplains working with first responders (*n* = 5). In total, 25 participants were recruited (police officers *n* = 10, paramedics *n* = 7, firefighters *n* = 3, psychologists *n* = 3, police chaplain *n* = 1, and ambulance chaplain *n* = 1). Table 17 provides the demographic characteristics of the first responders (*n* = 20) interviewed.

Table 20

Demographic Characteristics of the First Responder Study Sample

Demographics at time of interview		Number of participants
Age band	25–35	2
	36–55	15
	56–65	3
Nationality	New Zealand	15
	Australia	5
Gender	Male	12
	Female	8
Length of service	5–10 years	6
	11–20 years	6
	21–30 years	8

7.3.3.3 Data collection and analysis

The authors chose semi-structured interviews to generate data (face to face *n* = 19 and Skype *n* = 6). Participants provided permission for the interviews to be recorded and transcribed. The digitally recorded interviews were between 90 and 120 minutes. KH transcribed, anonymised, and coded all interviews from September 2016 to June 2017. Interview data and notes were stored and managed using QSR NVivo11. Interviews began with open-ended questions to elicit information about participants' wellbeing. These included "What does wellbeing mean to you?", "What things are happening when you are well?", and "What things take away from your wellbeing?". Semi-structured dialogue enabled KH to follow new lines of inquiry. Subsequent questions, and prompts, focused on exploring and developing main categories.

Data collection and analysis take place concurrently in GT (Charmaz, 2014). Analysis commenced with the first transcript using line-by-line coding, which immersed KH in the participants' stories and identified initial constructs (Ward et al., 2017b). The coding process enabled KH to cluster data into categories using gerunds[2] to identify action. Lower level codes and subcategories were subsumed by main categories and then integrated into the final theory (Ward et al., 2017b). The constant comparison process of GT enabled evaluation of ongoing coding and category construction with earlier data and with participants' words (Charmaz, 2014). Constant comparison also generated increasingly focused questions, which were adapted and developed as analysis progressed to explore new ideas and facilitate category development (Ward et al., 2017b). Returning to the data throughout the research process in GT means that the findings are an authentic reflection of the participants' accounts. Data collection concluded by the 25th interview, once theoretical saturation of categories had occurred (Charmaz, 2014).

[2]Gerunds are nouns formed from verbs by adding *-ing* and are useful in GT to locate action and sequence (Birks & Mills, 2015b).

7.3.4 Rigour

Credibility, originality, resonance, and usefulness criteria established rigour in this study (Charmaz, 2014). Credibility was established via reflexivity, meaning that decisions made during the research process were carefully examined in light of the researcher's assumptions, interests, and positions (Charmaz, 2014). Memoing, diagramming, and discussing the evolving theory with co-authors and other GT colleagues aided credibility and originality by refining category constructions and provided an audit trail of the research (Ward et al., 2017b). These processes confirmed that constructions were credibly grounded in the data (Charmaz, 2014). Theoretical sampling enhanced resonance and usefulness by enabling participants to implicitly evaluate conceptual ideas, and by developing categories against their experience and understanding (Charmaz, 2014). Participant quotations are included in the following text to evidence category construction and provide context.

7.3.5 Findings

Participants described various reasons for working as first responders. Six participants referred to these reasons as their "why". The why represented participants' values and needs, and what gave them meaning and purpose in life. Participants reported positive experiences when they achieved their why.

Participants strived to achieve their why but encountered specific, and changing, barriers that prevented them from consistently doing so. By building a toolbox, participants overcame barriers, and they developed skills to circumvent future barriers, to achieve their why. The process is represented in the GT termed *the heart of wellbeing* and includes three main categories: **striving to achieve my why**, **building a toolbox**, and **using skills to achieve my why**, as shown in Figure 11.

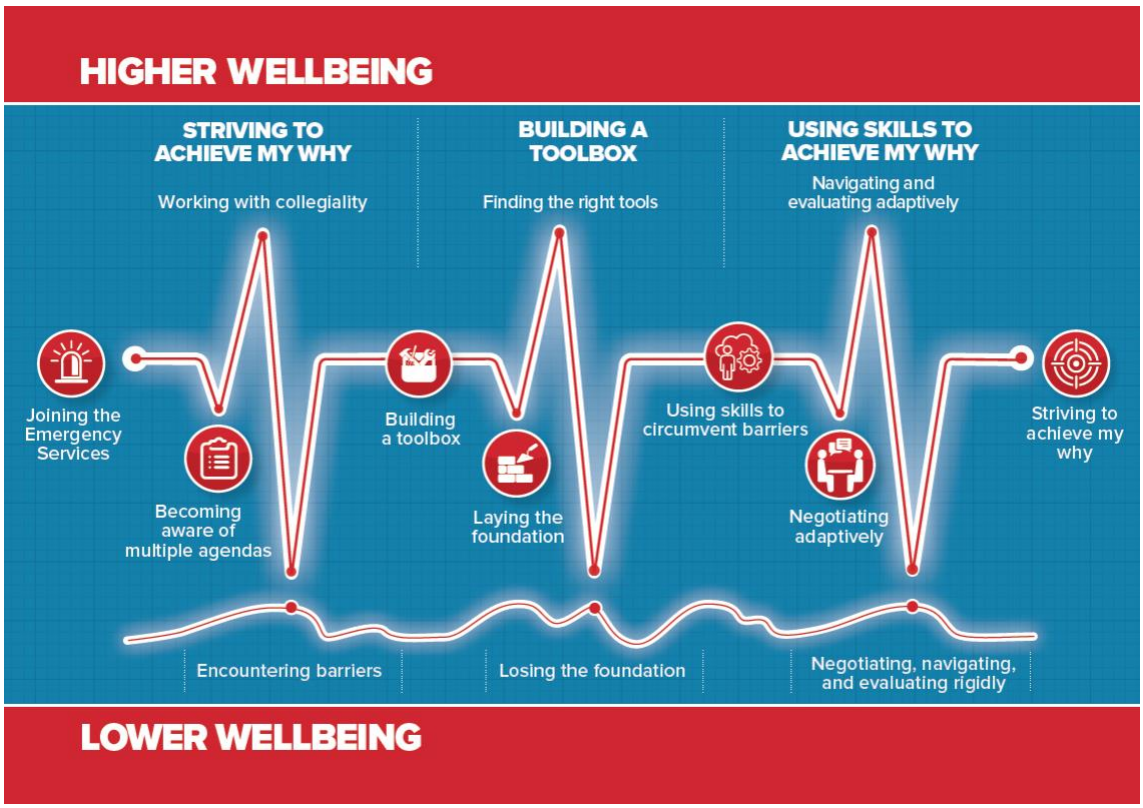


Figure 11. Model of the theory: The heart of wellbeing

Figure 11 illustrates how electrical tracing of a heartbeat reflects the continual and iterative process in the *heart of wellbeing* theory. The normal heart rhythm represents participants who are experiencing wellbeing and achieving their why. The abnormal heart rhythm represents participants who are not experiencing wellbeing and not achieving their why.

A storyline technique is used to present evidence for the *heart of wellbeing* theory. Storyline is a recognised technique for presenting GT findings (Birks & Mills, 2015; Ward et al., 2017a). A common storyline technique is to summarise certain categories in the GT to provide context for another main category (Ward et al., 2017b). In this paper, the first category, **striving to achieve my why**, is presented in storyline to provide context for the second category, **building a toolbox**, which is the focus of this paper. The final category, **using skills to achieve my why**, is also presented in storyline to complete the GT. In the following text, the categories are in **bold**, and the subcategories are *italicised*.

Storyline: Striving to achieve my why

The first main category describes participants' **striving to achieve their why** in the emergency services. Upon joining the emergency services, participants started becoming aware of multiple agendas. Other people's agendas became evident through their work, as did the political and organisational agendas inherent within the emergency service systems. At times the agendas were compatible, and this generated a sense of collegiality among co-workers. Participants trusted that their co-workers' agendas were prosocial, rather than self-serving. Working with

collegiality supported co-workers in the process of **striving to achieve their why**. Typically, however, participants described working with conflicting agendas. Conflicting agendas caused barriers that interrupted participants **striving to achieve their why**. Encountering barriers precipitated the process of **building a toolbox** to deal with the barriers. The toolbox helped participants continue **striving to achieve their why**.

C*ategory: Building a toolbox*

Participants' comments support and evidence category construction in this section, which is indicated by quotation marks. Where possible, I have maintained the verbatim nature of participants' words to preserve the integrity of what they reported and to demonstrate analytical rigour. Square brackets denote insertions to assist clarity. Ellipses contained in square brackets indicate omitted text. Participants are anonymised throughout the section.

The heart of first responders' wellbeing is feeling capable of dealing with barriers that prevent them from achieving their why. P11 illustrated: "Wellbeing to me means feeling capable to manage the day-to-day stuff, by having the tools to deal with the ups and downs of everyday life" (P11). **Building a toolbox** enabled participants to feel capable of dealing with barriers. A solid foundation of tools enabled participants to build more tools. Figure 12 depicts the main tools used by participants to achieve their why.

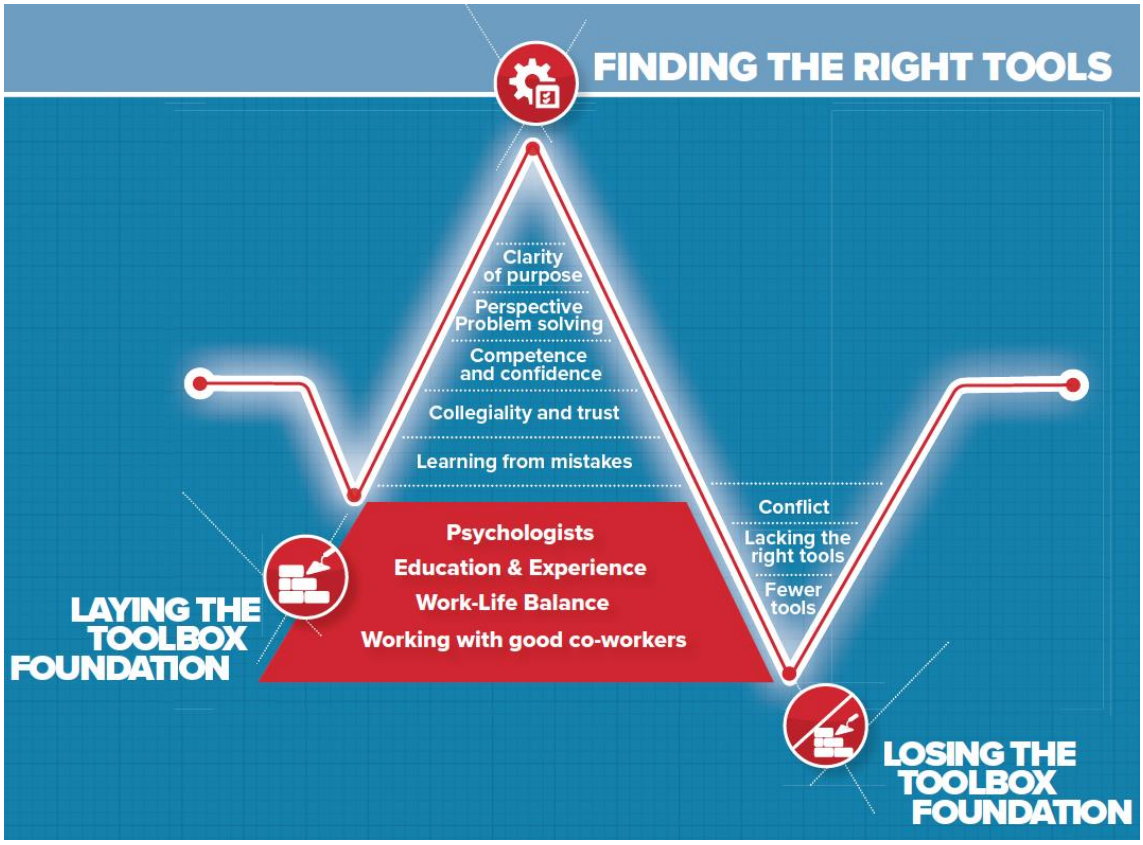


Figure 12. Building a toolbox: Subcategories and associated codes

Participants described feeling “engaged” (P2), “happy and confident” (P3), “enthusiastic and optimistic” (P23), and “positive” (P12) when they achieved their why. Fewer tools impaired participants’ ability to overcome barriers to achieving their why. Participants described experiences of “burnout” (P7), “disengagement” (P2), and “traumatic stress” (P13) when they felt unable to achieve their why.

Subcategory: Laying the toolbox foundation

Laying the toolbox foundation was the first stage in **building a toolbox**. When participants encountered new barriers, they looked for ways to overcome them: “We examine the thing that could be getting us down, unpacking it, solving it, to get us through that particular hurdle at that particular time” (P11). Participants used various foundational tools to overcome barriers throughout their career. Tools were foundational to the toolbox because they helped first responders to build other tools, as shown in Figure 12. For instance, working with good co-workers enabled first responders to leverage tools such as camaraderie and collegiality, which served to mitigate barriers and build more tools. A strong foundation of tools helped first responders to build a more refined toolbox, which was used to overcome a broad range of changing barriers. Highlighted next are the foundational tools used by all or most of the study participants.

“Working with good co-workers” (*n* = 20) was the most reported foundational tool. “Good co-workers” shared similar values and reasons for working as first responders. They were “trustworthy” and “supportive” (P11), “positive” (P2), “decent” (P12), and “competent” (P21) people. Working with good co-workers enabled participants to build most other tools in their toolbox.

Work–life balance enabled participants to build an identity repertoire, which involved participants nurturing other aspects of themselves. P23 illustrated: “It’s a cool job, but that’s not all that's me. I’m married, I’ve got two boys, I do stuff outside of work”. When participants were unable to achieve their why at work, they used an identity repertoire to achieve a why outside of work. An identity repertoire reportedly promoted wellbeing, as acknowledged by P7: “If cops don’t over persist with their identity being everything in police, they tend to be better in terms of wellness”. An identity repertoire enabled participants to cope with trauma: “When I deal with stuff that's pretty yuck, and I can retreat into other parts of my life, and find some safety and meaning there, it means I’m surviving OK” (P22).

Experience and education are critical foundational tools for first responders as they enable participants to do their job effectively, thereby achieving their why. P11 acknowledged the importance of experience: “with enough experience and support I can do my job effectively, which makes me feel proud, like I’m making a difference. This is when I feel engaged and well”.

Psychologists were a foundational tool actively sought out by 13 participants. P9 said, “the tools given to me by psychologists have helped me to learn a lot of good ideas to deal with the job”. A

psychologist herself noted the importance of “giving people the tools and skills to work and live effectively as first responders” (P18).

As illustrated next, participants used their toolbox to “find the right tools” (P7, P12) to overcome new barriers to achieving their why.

Subcategory: Finding the “right tools”

“Find[ing] the right tools” (P7, P12) to overcome new barriers was the next stage in **building a toolbox**. *Finding the right tools* was an interactive and dynamic process determined by three interlocking factors: the nature of participants’ why, perceived barriers to achieving their why, and tool availability. Each participant’s why determined how they interpreted barriers, which in turn determined the tools that they needed to overcome the barriers. For example, participants whose why was to make a difference in their community encountered different barriers and needed different tools from those needed by participants whose why was to gain a promotion. Participants’ why changed throughout their careers, so they encountered different barriers at different times. Tool availability determined whether participants could find the right tools to overcome the specific barrier to their why. The absence of foundational tools created further barriers for participants, as they were unable to lay the foundation to their toolbox.

Finding the right tools was a dynamic process as each situation requires different tools. P21 recognised, “If you’re not smiling then something has to change. Sometimes it’s within your capability to change, and sometimes it’s not. Sometimes other things need to change before you can change it”. This section considers how participants leveraged foundational tools to find other tools. The examples provided are not exhaustive regarding all the tools that participants used. Instead, the examples provided below are used to illustrate the process of *finding the right tools*, as shown in Figure 12.

Learning from mistakes was a tool valued by just over half of the study participants. P7 illustrated: “Building a learning environment is important. A learning environment exposes all of our mistakes and makes it safe to talk about them, we learn from them, it is a source of professional development”. However, some participants felt unsafe about learning from mistakes because of a punitive workplace culture. Participants said, “there’s this fear factor that if I make a mistake, or someone puts in a complaint, I will be persecuted” (P12) or “punished” (P1). Participants needed to find other tools to feel safe to learn from mistakes. P11 said that when she gained financial security and competence, she found the confidence and security to know that “mistakes are going to happen every now and then, they are something to learn from versus feeling like I’ve personally messed up”. Supportive managers enabled participants to feel safe to learn from mistakes. P20 said, “If you make an honest mistake he [Station Officer] won’t crucify you, he’ll just make you do more training”. Learning from mistakes increased participants’ competence and confidence, enabling participants to perform more effectively as first responders and thereby achieve their why.

Working with good co-workers built collegiality and trust. Collegiality reduced "bickering" (P18) and "conflict" (P12) and promoted "camaraderie" (P1) between co-workers. Collegiality helped participants to achieve their why; as P15 noted, "the job's easy when you're on the same wavelength. It's like the ego isn't there and you're in it for the same reasons, you're there to help people". Collegiality increased trust between co-workers, reducing the need for participants to resolve conflict with each other. Good co-workers increased confidence and competence because first responders could rely on each other in difficult circumstances. P3 reported that "even at terrible jobs, because you've got a good sergeant, and good people around you, you know you'll deal with it". Participants sought out good co-workers to find tools such as problem-solving and a clarity of purpose, which were needed to overcome specific barriers. P14 illustrated: "They [positive co-workers] are a huge help. Even just communicating together, like figuring things out on tough jobs, is a huge help". Clarity of purpose enabled participants to understand how, and when, they were achieving their why, as P7 recognised:

> [General Duties Police Officer] was doing bail checks, which is such a boring job. But this guy was super engaged, and I wanted to know why. He told me that his sergeant tells him every day the offending of the people that he finds breaching bail and that what he's doing directly contributes to safer communities. His sergeant was telling him how he was making a difference and this guy was hugely positive as a result.

Problem-solving tools were built by psychologists, as recognised by P23: "I speak about organisational stuff, things that hinder my goals, and we work through how to deal with it". Perspective tools were also built by psychologists. P12 said, "[Psychologist] said your problems aren't as bad as you think, it's just your perspective, which can change, but you need the tools to make that happen". By finding perspective, participants were able to re-evaluate their why after new experiences. P24 illustrated:

> I was very career driven, but I drove myself into the ground trying to achieve what I wanted to achieve. In the process, I realised that it wasn't what I wanted at all, and the important things in life, they're not work or any of this, it's your family and your health. If you haven't got either of those things, well then you are doomed (P24).

Perspective focused participants' attention on "controlling the controllables" (P9) rather than "getting caught up on things where you don't have control over the outcomes" (P9). Participants used a positive perspective to interpret barriers as personal challenges, rather than permanent obstacles to achieving their why. Taking another's perspective reduced conflict and increased collegiality among co-workers. P10 acknowledged that "you have to be able to see the other person's point of view in this job" (P14). Perspective helped participants to find clarity of purpose in their first responder role. For example, clarity of purpose enabled participants to identify and deal with barriers that were relevant to their why. P7 explained:

> I remember this paedophile who got a minimum sentence after years of offending. As a detective, I thought, "I'm not being effective". But I didn't realise what my job was. It's [sentencing] a judge's job and a parole board's job. Our job is to take care of victims, not to punish people. Our job is to present the best evidence possible then let the jury do the rest.

Clarity of purpose focused participants' attention on achieving their own why, rather than other people's. P20 said, "I joined to be a fireman. My station officer wants me to do my officer exams. I won't do it. You don't go into the fire and help your mates as an officer. I'm not interested; it's just not me".

Subcategory: Losing the toolbox foundation

Lacking the right tools resulted in participants feeling incapable of overcoming barriers: "If you don't feel like you have the skills, knowledge, patience to traverse those difficult times, that's when you feel helpless and hopeless" (P11). When participants lost access to foundational toolbox tools, it adversely affected their wellbeing. P13 illustrated:

> Without getting the support, the accolades, the thanks, your cup eventually empties, and you're on empty. I understand why [post-traumatic stress disorder] is so prevalent in our work. But it's got nothing to do with the job and a lot more to do with the service. (P13)

Without a foundation of tools, participants could not leverage other tools to overcome barriers. They felt unable to achieve their why. P1 said, "You go in there thinking that you're going to be able to make a difference, but you do get disillusioned". Losing the foundation resulted in one participant self-medicating to cope when he was unable to achieve his why. P21 said, "I used to get a couple of bourbon and cokes every day when I left work, and I drank them when I was driving home". Conflict with co-workers prevented participants from levering tools like collegiality and camaraderie.

Tools reported by study participants were tangible and intangible. Tangible tools included working with good co-workers, education, experience, and psychologists. Intangible tools included clarity of purpose, trust, perspective, and confidence. Tools gave participants the skills to overcome and circumvent barriers to achieving their why.

Storyline: Using skills to achieve my why

As participants gained experiences, they developed *negotiating*, *navigating*, and *evaluating skills* to circumvent barriers to achieving their why. Participants *negotiated their why* with other people or the system by playing the game, asserting their why, creating new opportunities, or staying under the radar. Participants *navigated* towards a why that matched their values and needs by a clarity of vision, "finding my why", changing direction, and finding a compensatory why. Participants continually *evaluated success.* They used intrinsic and/or extrinsic markers of success as evidence that they had achieved their why. Participants with a stronger toolbox had more skills and adapted their skills to each new situation. Participants with a weaker toolbox had fewer skills and used the same skills rigidly, irrespective of their situation. *Skills* determined how often participants achieved their why.

In summary, participants' why determined the barriers that they encountered. Foundational tools enabled participants to iteratively build and find the right tools to overcome new barriers. A strong toolbox gave rise to skills that participants used to circumvent barriers to achieve their why.

7.3.6 Discussion

This study is the first to explore first responders' perspectives on wellbeing. The toolbox was central to first responders' wellbeing because it enabled them to experience meaning and

purpose, identified by participants as achieving their why. Achieving their why promoted first responders' wellbeing, which is consistent with evidence that meaning and purpose is strongly linked to wellbeing (Hamling et al., 2015; Roepke, Jayawickreme, & Riffle, 2014). This paper is the first to use GT methods to show that first responders deal with organisational barriers to achieve their why by **building a toolbox**.

The process of **building a toolbox** is consistent with the concept of resource loss and gain in the conservation of resources (COR) theory (Hobfoll, 1989). The COR theory recognises that people need a reservoir of resources to leverage other key resources to maintain their resilience and wellbeing (Hobfoll, 1989; Hobfoll & Shirom, 2000). Resources built in one domain can facilitate resources in other domains. Hobfoll (1989) referred to this as "gain spirals" (p. 118), which is akin to **building a toolbox**. Conversely, the COR theory suggests that people with fewer resources are less capable of resource gain. Likewise, without access to foundational tools, first responders could not leverage other tools. Research with trauma-exposed populations shows that when people work in a resource-rich work environment, they are more likely to experience higher wellbeing and resilience (Hobfoll, 2011; Hobfoll, Dunahoo, & Monnier, 1995; Hobfoll & Shirom, 2000; Hollifield et al., 2016).

First responders need access to foundational tools specific to emergency service work to maintain wellbeing (as shown in Figure 12). Foundational tools exist in a first responder toolbox and a team toolbox. The first responder toolbox relates to tools used independently by first responders, such as a psychologist. The team toolbox relates to tools used interdependently by first responders, such as working with collegiality. Extant knowledge supports the concept of two toolboxes, as demonstrated below. Emergency service organisations are recommended to help build both types of toolbox to protect first responder wellbeing, as detailed in Figure 13.

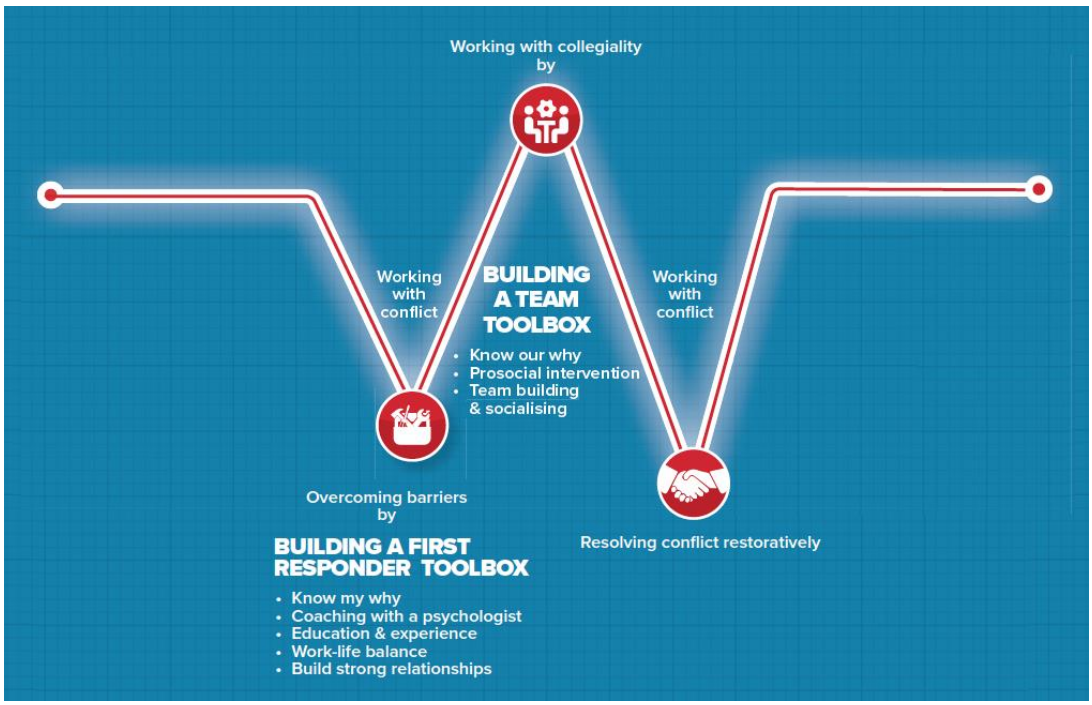


Figure 13. Building an individual and team toolbox for wellbeing

The tools identified in the first responders' toolbox are related to people's need for autonomy, competence, and relatedness, consistent with the self-determination theory (R. M. Ryan & Deci, 2017). Various studies demonstrate how social-contextual factors support or thwart people's wellbeing through the satisfaction of these basic needs (R. M. Ryan & Deci, 2017). In this study, tools such as working with good co-workers gave first responders the freedom, support, and resources to pursue their why, which met their need for autonomy. Tools such as psychologists, education and experience, and supportive management helped participants feel competent in their work. Tools such as work–life balance and good co-workers enabled first responders to develop strong social connections, thereby meeting their need for relatedness. Emergency service organisations should concentrate on helping first responders build foundational tools to obtain the most return on wellbeing initiatives. For example, regular sessions with a psychologist experienced in working with first responders could help first responders leverage other tools. Future research should evaluate the availability of foundational tools to first responders across the emergency services. The first responders interviewed in this study did not have access to all of these tools, and this had a negative impact on their wellbeing as a result.

The concept of a team toolbox aligns with the optimal distinctiveness theory, which considers evidence that shows people cannot survive outside of cooperative yet interdependent groups (Brewer, 2012). The team toolbox contained tools such as collegiality, camaraderie, and the ability to resolve conflict restoratively. According to the optimal distinctiveness theory, cooperative groups not only provide shared resources, a division of labour, and mutual protection but also require individuals to give resources and efforts to contribute to group outcomes (Brewer, 1991, 2012). In this study, collegial teams helped each other to achieve their

why because in doing so they achieved their own why. Collegial teams were protected against trauma because the team itself provided a “gain spiral” of resources (Hobfoll, 1989, p. 118). The findings are consistent with research showing that social support is strongly related to resilience and post-traumatic growth (Prati & Pietrantoni, 2009). Future research should evaluate the effectiveness of a team toolbox on individual first responders’ wellbeing.

Collegiality was infrequently experienced by first responders in this study, which is consistent with other studies (Burke, 2016; Cotton et al., 2016). Conflict with co-workers prevented participants from achieving their why, which created conditions for distress and trauma. The team toolbox should include a prosocial intervention to promote team collegiality and cooperation (Bolino & Grant, 2016; Evolutionary Institute, 2014). Helping teams to resolve conflict restoratively would be another way to build a strong team toolbox (Kidder, 2007). Half of the first responders in this study said that team building opportunities had declined significantly over their careers because of decreased resources, occupational health and safety legislation, and changing workplace culture. Emergency service organisations are advised to provide more opportunities for teams to engage in social team building activities as a way of strengthening the team toolbox. The team building activities could also serve as a platform to teach first responders the tools and skills to overcome and circumvent barriers to achieving their why. Teaching people wellbeing skills in the guise of team building has been performed in various corporations (A. Jarden, personal communication, 29 May 2018). Outdoor adventure courses such as Outward Bound are another way of teaching people the tools and skills to develop their resilience and self-efficacy (O’Brien & Lomas, 2017).

7.3.7 Conclusion to the article

First responders rely on other people as much as themselves to maintain their wellbeing. This finding emphasises the significance of optimising individual and team resilience in the emergency services. Wellbeing interventions should concentrate on the foundational tools reported by first responders to help them build a strong individual and team toolbox. Emergency service organisations are recommended to prioritise team resilience in organisational wellbeing policies to balance the traditional focus on individual resilience to operational trauma. The first responder and team toolbox should be used by first responders to achieve their why and flourish, rather than to prevent trauma and ill health. Contextualising wellbeing interventions to first responders achieving their why may be a more effective and meaningful way of increasing first responders’ resilience and post-traumatic growth, and reducing their post-traumatic stress. All of the tools and skills identified in this study are commonly associated with resilience. This research is novel as we have constructed a theory to explain how to promote first responder wellbeing, rather than prevent ill-being. The *heart of wellbeing* shows for the first time why and how people flourish in the role of a first responder.

7.4 Main category 3: Using skills to achieve my why

In the previous article I identified that **building a toolbox** enabled participants to feel capable of overcoming barriers as they **strived to achieve their why**. In the process of **building a toolbox**, participants developed skills to circumvent future barriers to achieving their why. This section describes the third main category, **using skills to achieve my why**. The first skill is the subcategory *negotiating my why*, as outlined next.

7.4.1 Negotiating my why

Negotiating my why was the first *skill* that participants used to achieve their why. Participants negotiated their why with other people and systems, particularly during times of conflict. Participants proactively negotiated their why by playing the game, asserting their why, creating new opportunities, and staying under the radar. The style of *negotiating* depended on participants' why, perceived barriers, and the tools available in their toolbox.

Participants likened *negotiating* to "playing a game" (P1, P4, P6, P8, P9, P23) to win and achieve their own why. P1 spoke about the multiple agendas she faced as a prosecutor. For example, she reported that the lawyer's agenda was to defend the perpetrator, while her role was to incarcerate the perpetrator. The participant spoke about the need to play the game to achieve her why. She explained:

> When I became a prosecutor I realised it's a game, but it's a game that affects people's lives, and that's really hard to cope with[…] But you have to get over that to actually survive. Like, it eats you up otherwise. So you've got to just think of it like playing a game.

Negotiating by playing the game meant that participants temporarily subjugated their own why and prioritised another person's, or system's, agenda to achieve a longer term goal. For example, P8 reported that in her opinion gaining a promotion was as much about playing the game as it was about performance. She said, "I think that getting a promotion is as much about what your supervisor thinks of you, and being on good terms with them, as it is about your performance [...] You've got to play the game to get promoted". Participants said that playing the game is sometimes necessary to avoid conflict with the public and to keep safe in uncertain situations. For example, P15, a paramedic who is married to another paramedic, described the time when her husband was conducting cardiopulmonary resuscitation (CPR) on a gang member. As he was performing CPR, the other gang members were "breathing down his neck saying, he dies you die". P15 said that the patient was dead but her husband "kept going [CPR], got the patient into the ambulance, drove away, and made sure the police were waiting at the hospital". By playing the game, the participant's husband was able to keep himself safe.

At other times participants were unwilling to *negotiate* by playing the game. P10 said:

> Dog handler would be my number one, but it's really hard to get into because everyone wants to do it. It's a bit gutting [...] I've realised, you sort of have to play the game to get that job, which I'm not willing to do.

By asserting their why, participants disengaged from the game and prioritised what was most important to them. They were unequivocal about certain values and needs, and would not

subjugate these at any time. For example, P12 prioritised his values over playing the game, stating, “I will not work with this person. My value system says I cannot abide being with a person like that”. Participants engaged in minimal *negotiation* when they asserted their why. Instead, they stood firm on matters that were important to them and accepted the consequences. As P22 mentions:

> My manager wanted me to give them another [selection] test, and I said, “no, I won’t be doing that”. And he said, “I’m not asking you, I’m telling you”. So I told him why I wasn’t going to do it, and he said, “you’re not listening to me, I’m telling you”. And I said, “here are your keys and your cell phone, and the pager will be on the desk, I’m outta here”. So he got the office lady to do it.

Other participants *negotiated* by trying to change other people’s, or system’s, agendas by asserting their why. For instance, P2 valued staff wellbeing but he perceived that his supervisor was impairing staff wellbeing at their station. P2 stated, “I took it upon myself as 2IC to tell him that he needed to calm down […] And lately he has said more well done, and thank yous”.

Other times participants *negotiated* by creating new opportunities to achieve their why. Participants became creative about how they could achieve their why among the barriers and constraints associated with emergency service work. P7 described how he created autonomy in his role to achieve his why:

> CIB was really structured [...] you just kept working homicide after homicide. The content didn’t bother me, it was the rigidity and lack of autonomy that affected me. But at these times I would try and find things where there was freedom, like scene examinations, because you work through a scene by yourself or running informants. I could gain some autonomy that way.

As illustrated by P7, many participants were proactive in creating opportunities to achieve their why. A full toolbox empowered participants to think outside the box to find ways to achieve their why. For instance, after P19 was stood down from operational firefighting, because of a heart condition, he felt unable to achieve his why as a firefighter. He also *negotiated* this barrier by creating new opportunities to achieve his why. He explained:

> I did things to make the [non-operational] job more meaningful to me, like finding new buildings that had new alarms connected. I would check the building to write up as much information as I could to help the Station Officer find the building and the fire control room. It made me feel useful because I knew from my experience that if you had a name of a building to look for that was really helpful.

Participants sometimes recognised that *negotiating* was not possible. Either they lacked the toolbox to overcome barriers, or they were simply unwilling to *negotiate* their why. At these times participants *negotiated* by “staying under the radar” (P12) to avoid barriers altogether. P12 reported:

> If you talk to any paramedic, they’ll say, “all I want to do is turn up each day to work and stay under the radar, and not interact with senior management at all”. And I am the same, if I can avoid that, then my life will be a lot happier.

By avoiding barriers, participants were able to achieve their why in a clandestine way. However, staying under the radar was not always possible. If participants could not negotiate in other ways, they felt less capable of achieving their why, and their wellbeing suffered.

In summary, a strong toolbox enabled participants to adapt their *negotiating skills* to the situation that they were in. Conversely, a weaker toolbox restricted participants’ *negotiating*

skills. Participants tended to use the same style of *negotiating*, irrespective of their situation. Ultimately, participants' *negotiating skills* became more agile in the presence of a strong toolbox and more rigid in the absence of a strong toolbox. In extreme circumstances, participants resigned from the emergency services when they lacked the tools and skills to feel capable of achieving their why. For example, P2 said, "I quit the police in 2007 because I lacked support from above, and because I kept being put into a position that I detested". *Negotiating* was complex and many participants lost sight of their why in the process. Participants who navigated their why continued to achieve a why that remained relevant and meaningful to them.

7.4.2 Navigating my why

Navigating my why amid change and barriers was the second *skill* that participants used to achieve their why. *Navigating* was the process of purposefully moving towards a why that matched participants' values, needs, and resources. The process of navigating was likened to "using a compass" by P4. The participant acknowledged that his values changed during his career as a police officer. As a result, he reportedly used his compass to change jobs in the police to work in a position that matched his values, resources, and sense of identity. As evidenced next, participants navigated their why in different ways.

Navigating my why was difficult because participants' why changed throughout their careers. Participants recognised that as their values, beliefs, needs, and resources changed, so did their why. P16 illustrated how many times her why changed in her career as a paramedic:

> The reason I joined is different to the reason I stay, things have changed for me. It still resonates for me to care for other people, but it's not the main reason that I stay in. My first why was my dad, my second why was learning intellectually, and now my third why is to fulfil a role that I'm new at and to do it well.

Sometimes participants lost sight of their why. They had subjugated their own why for so long in the *negotiating* process that they had forgotten what their values and needs were. P4 illustrated: "You join for all the right reasons [...] But you get sucked into this big thing, and you've got to change the world [...] After around a year I lost the reason for why I joined". Participants recognised that sometimes they *navigated* towards the wrong why. They lacked insight into their own why, or they lacked *negotiating* skills. For instance, P7 acknowledged that some first responders were "pushed into roles, or pursue promotion, and find themselves in roles that have nothing to do with why they joined". P21 described being "hijacked" by a system agenda and forced to work in a position that had nothing to do with his values. P21 explained:

> I was a chief for two years and I hated it. It was the worst two years of my life. I didn't want to do it, I didn't apply for it, but I got asked to fill in as the acting chief for six months, but it got dragged out and dragged out. I hated it; I absolutely hated it.

Sometimes participants navigated towards an unrealistic why in the sense that they lacked the tools to achieve a particular why realistically. P7 said, "they have a misguided view of what they can achieve". Navigating an unrealistic why was bad for participants' wellbeing, as acknowledged by P7: "Sometimes people can't be all the things that they want to be, because their circumstances won't allow it. If they keep trying, then they'll always be unhappy and unwell". When participants were unable to *navigate towards their why* they sometimes used

alcohol or other non-adaptive ways to compensate. P21 said that he "used to get a couple of bourbon and cokes every day when [he] left work and drank them while driving home" as a way of coping when he could not achieve his why. P7 said that people who were not navigating towards their why were "some of the most unhappiest people that I see in police".

Participants *navigated their why* in different ways, which included the codes staying "clear on my vision" (P9), "finding my why" (P7), changing direction, and finding a compensatory why. Staying clear on my vision happened when participants had clarity about their values and needs and would not subjugate them on any occasion. Some participants said that, despite being persuaded to follow another person's, or system's, agenda, they would not deviate from their own why. P23 said that although co-workers kept telling him to apply for senior positions, he kept saying no because "this is what I need to do, this is where my job is". Staying clear on my vision meant that participants invested their efforts *navigating* towards their own why, rather than someone else's.

"Finding my why" amid barriers was a strategic action that participants took to find a connection between their job and their why. Participants found their why by "drill[ing] down and work[ing] out what gives you meaning and value in your job" (P23). P7 illustrated how "finding my why" is important to knowing your purpose:

> When she has work that doesn't stimulate her she considers, "how do I work my energy around this particular inquiry?" She finds the connection between her work and how it's helping someone or saving a life somewhere. She has to find someone who needs service in everything she does[...] She needs to know her purpose and to know that daily, and find that in her work.

Participants sometimes needed help from other people to find their why. Co-workers helped participants to "remember" (P12) why they were first responders. P12 explained:

> When they're telling me, "I hate the job", I say, "remember why we're here". I point out the benefits… And they say, "yeah I know". And I say, "yeah, well hold onto that, it's important". A lot of the time, that's what I use as a motivator, for not only me but others as well.

Changing direction happened when participants navigated towards a new why. Participants said that when their values and needs changed, they started *navigating* towards a new why. For instance, following a powerful exchange with a gang member, one participant recognised that he "was doing the wrong job" (P4). The experience made P4 realise that his values had changed as a police detective and that he was "destined to be a negotiator". At other times participants maintained the same why, but because of their circumstances, they were no longer able to achieve it. A smaller number of participants *navigated* by changing careers to achieve their why. For instance, P20 said that when he joined the police, he wanted to be a community constable, but instead ended up doing prison escort and court orderly work. P20 said, "this is not why I joined the police, so I started looking [for other work]". P20 eventually became a firefighter and said it "turned out to be the right decision".

If participants could not achieve their why at work, then sometimes they found a compensatory why in another aspect of their life. Compensatory whys included things like money,

camaraderie, family, sports, second jobs, or hobbies. P10 said that he tried to help family and friends at home because “you couldn’t always do that at work”. P19 acknowledged that he did more work with the Army Reserve and more adventurous activities when he could not achieve his why as an operational firefighter. When participants lacked tools, they used passive compensatory whys, such as “a steady income” (P1), to navigate towards instead. As noted by P7, passive compensatory whys are unconnected to participants’ core values and are not sufficient to maintain wellbeing, “losing that connection between why you’re coming to work and what you’re doing, and that’s when you’re not well” (P7).

In summary, participants *navigated their why* differently depending on their toolbox. Some participants continually evolved their why to match their changing values and needs. Other participants *navigated* steadfastly to a why despite their changing circumstances. As participants negotiated and navigated, they used some form of “affirmation, big or small, to keep [them] on track” (P22). Keeping on track was described by participants as “knowing why you’re here doing what you’re doing” (P22). Participants described various ways of keeping on track, including the *negotiating and navigating skills* described so far. The next section presents the final set of skills that participants used to “keep on track” and achieve their why.

7.4.3 Evaluating success

Evaluating success was the final action that participants took to achieve their why. Participants looked for signs that they had achieved their why. For instance, P25 said that he became a firefighter because he wanted to work in the community and drive trucks. He evaluated success based on this criteria, stating, “I love going to work, I’m surrounded by a good group of people, we’re always out in the community, and I get to drive trucks”. Despite all participants looking for evidence of success, it was not always available. For instance, it was difficult for participants to know how they had made a difference when confronted with abusive or ungrateful members of the public. Participants sometimes used their own criteria to evaluate success when external evidence was unavailable. Participants required less external validation as they built their toolbox and developed their skills. *Evaluating success* by using *intrinsic and extrinsic evidence* was the final skill that participants used to achieve their why.

Participants needed some form of external validation and feedback during their careers to know that they had achieved their why. P2 acknowledged the importance of receiving a Canterbury medal after the earthquake in Christchurch, New Zealand, stating, “that’s just another little recognition that I wear with pride, and a reminder of the good work that we’ve done” (P2). First responders used external feedback from trusted co-workers when they lacked objective evidence that they had achieved their why. For example, P16 said that after a patient died, she used external feedback from colleagues as proof that she had still achieved her why. P16 reported that by learning and taking something meaningful out of a terrible situation, she maintained the sense that she had achieved her why. P16 stated:

> When someone you trust can objectively tell you that what you did was good, and that you did your best, and what you could do differently next time, then you can take

> something meaningful out of that situation. You don't keep hitting yourself over the head saying maybe I should have done this or that.

Without external feedback, it was sometimes difficult for participants to evaluate whether they had successfully achieved their why. For example, P13 highlighted that a lack of external recognition and appreciation for her work as a paramedic left her unsure how she had achieved her why:

> If only a manager said, "Jeez [name] that was a horrible job, and you did so well. You got through that job so professionally. The way you cared, and extended your energy, and put everything you had into saving that life, it was amazing and thank you, what would our service do without having someone like you?" If you had someone tell you that, you'd have a sense of wow, thank you, yes, this is why I do it, and it's so good to hear someone tell me that. But you don't get any recognition for the years that you've poured your heart into helping people, saving lives, holding people's hands while they're sick and injured, and in pain [...]

Participants reported that they often faced public criticism in the media. They expressed frustration with the media for criticising first responders when they "are putting their heart and soul into the job" (P1). Participants recognised that when things go wrong in the emergency services it quickly makes news headlines and gains social media attention (P2). Positive feedback was important at these times, prompting some participants to seek it out actively. P14 said that he notified a manager when his team saved a child's life in a job that went "like clockwork, the way it is supposed to be" and he believed that it deserved some recognition. The participant wanted to promote positive stories in the media and gain recognition from management. P14 said, "we ended up getting a thank you from our clinical director, and that was great" (P14).

Although all participants highly valued extrinsic markers of success, the feedback was fickle and unreliable. External feedback depended on other people and external events, meaning that this type of feedback was not always available to participants. P16 explained: "How do I know if I'm doing well? I don't get audited I suppose. I don't know; I certainly don't get anyone coming to me and saying I've done a good job". Participants who relied on extrinsic evidence were less likely to achieve their why. P1 illustrated how depending on convictions is not a reliable way to feel successful as a police officer:

> You go in there thinking that you're going to be able to change the world and be a benefit to society. But you get disillusioned, and the justice system does that[…] We had a case the other day where the victim was raped as a child, the offender gets off, and she tries to commit suicide after the court hearing. The cop feels terrible, but it's not his fault.

As participants built their toolbox and developed their skills, they started to *evaluate success intrinsically* as well as *extrinsically*.

Participants *evaluated success intrinsically* by using their own criteria for success. P16 said, "But for me, I don't get anyone saying to me 'wow [name] that was amazing'. My feedback comes from getting somebody to hospital, doing what you can to relieve pain, or getting them to breathe better, that's my positive feedback". Participants focused on how they had enacted their values as a way of evaluating success intrinsically. P21 illustrated: "What drives me is seeing a

team succeed. Seeing a functioning team working well, and that I'm a great boss, I'm there for them, and I've got their back".

One participant explained that as he gained more experience, competence, and confidence as a first responder he needed less extrinsic feedback. P24 said that he could evaluate success himself, intrinsically, as highlighted next:

> I've battled with that need for validation. Certainly, through the tough times, I needed someone to say "you're doing a good job" to feel validated, and that I'm doing well. But over the last year or two I've focused less on that and more on the knowledge, or security, within myself to say, you know what, I know I'm doing a good job, I don't need people to tell me.

Three participants balanced intrinsic and extrinsic markers of success simultaneously to achieve their why. For example, when discussing how he *evaluated success* in the court system, P10 said:

> I'm probably more happy with knowing that I'd worked hard and put forward a good case to the Crown than the verdict. The verdict is important, but that's more important to the victims than me. It's good to get a good verdict for the victims[...] But, for me, it's probably more the work that I put into the case.

Participants said that they adapted how they evaluated success according to their situation. P7 said that he "keeps the focus in the right place" when he is evaluating his why. Participants who balanced intrinsic and extrinsic markers of success simultaneously were more likely to achieve their why.

Two participants evaluated success using only intrinsic markers of success. On these occasions they did not have the toolbox or skills to adapt how they evaluated success in each situation, or they did not value the extrinsic markers of success available to them. P3 said, "I'm not interested in giving out little tickets like someone rolled through a stop sign, so they [supervisors] can make their statistics look good". P3 was more interested in building relationships within his community, and he evaluated success based on this criterion. However, the participant acknowledged that he had forgone any chance of promotion. He said that he was not prepared to subjugate his why for the sake of meeting the system's requirements for promotion, or "ticking the box" (P3).

In summary, some participants were more adept at evaluating success using both intrinsic and extrinsic markers of success. When participants built a strong toolbox, they had the skills to balance intrinsic and extrinsic markers of success simultaneously. By adapting how they evaluated success to their situation, participants increased their ability to achieve their why. However, other participants evaluated success in the same way, irrespective of their situation. They restricted opportunities to achieve their why consistently.

7.5 Chapter summary

In conclusion, participants in this study strived to achieve their values and needs and what gave them meaning and purpose in life. That is, they strived to achieve their why. However, conflicting agendas caused barriers that prevented participants from achieving their why. When

participants felt capable of overcoming the barriers to achieving their why, they were more likely to experience wellbeing. Participants reported positive experiences when they achieved their why. The *heart of wellbeing* theory situates the toolbox at the *heart of wellbeing*, because it enabled participants to overcome barriers and develop skills that ultimately enabled them to achieve their why.

Chapter 8. Integrating the mixed methods data

The overarching aim of this research program was to investigate wellbeing across occupations and in the emergency services. This thesis used two separate, yet interdependent, studies to answer the research questions “What do workers experience as wellbeing in different occupational contexts and how do first responders experience wellbeing in the context of the emergency services?” To address gaps in knowledge, and to answer the research questions, I conducted a mixed methods study that was underpinned by a pragmatist philosophy and mixed methods methodology. This chapter now synthesises the mixed methods findings and situates the study outcomes within existing knowledge.

8.1 The four main integrated findings

The findings of data analysis and the constructed theory, the *heart of wellbeing*, are presented as four key themes: (1) Wellbeing is a contextual experience. (2) Meaning and purpose leads to wellbeing via a calling enactment. (3) Calling enactment is difficult to achieve. (4) First responders need specific tools and skills to achieve a sense of calling. The following sections synthesise these themes and discuss the significance of these findings in the context of existing knowledge.

8.1.1 Wellbeing is a contextual experience

Data drawn from this study indicate that different factors were associated with wellbeing according to occupational context. For instance, the quantitative data demonstrated that although the factor ‘subjective general health’ correlated highly with global wellbeing for technicians or trade workers, it did not have the same strengths of association with global wellbeing for any other occupational group. Likewise, the factor ‘give’ was correlated highly with work wellbeing for community or personal service workers, yet it did not have the same association with work wellbeing for any other occupational group. The qualitative data also indicated that specific factors were associated with the wellbeing of first responders who participated in this study. For instance, the *heart of wellbeing* theory identified that working with collegiality, working with good co-workers, education and experience, psychologists, and work–life balance were commonly reported factors that were associated with first responder wellbeing. The quantitative findings also indicated that people working in higher status occupations, such as professionals, experienced higher wellbeing than people in lower status occupations, such as labourers. Therefore, I argue that wellbeing is experienced differently among people working in different occupational groups. The Job Demands–Resources (JD–R) model can explain why workers experience wellbeing differently according to their occupational context (Bakker & Demerouti, 2007; Hart et al., 2015).

Research indicates that occupational groups have unique job demands, and that specific job resources are needed to mitigate against the job demands (Bakker & Demerouti, 2007; Hart et al., 2015). The balance between job demands and resources is known as the JD–R model

(Bakker & Demerouti, 2007). According to the JD–R model, both global and job-specific resources are needed to mitigate the job demands associated with different types of work (Bakker & Demerouti, 2007; Hart et al., 2015; Schaufeli & Taris, 2014). Extensive research supports the model, including studies involving first responders (Hall et al., 2010; LaMontagne et al., 2006; Schaufeli & Bakker, 2004; Tuckey & Hayward, 2011). The quantitative data in this study identified that each occupational group had unique factors associated with their wellbeing. The factors may represent the different resources that workers need to mitigate against their specific job demands. For example, the factor 'subjective general health' was strongly correlated with wellbeing for technician and trade workers but not with that for any other occupational group. A higher state of physical health is likely to be more critical for technician and trade workers to overcome the physical job demands in this occupation. Although wellbeing experiences changed according to occupational context, there were two exceptions in the quantitative data.

The first exception related to work–life balance, which was not differentiated by any occupational group in its relationship with work wellbeing (measured via a job satisfaction question). The finding is consistent with evidence in the occupational wellbeing literature showing the strong association between work–life balance and job satisfaction (Sonnentag et al., 2012; Zheng et al., 2015). Work–life balance was also significant in the *heart of wellbeing* theory as it provided a way for first responders to experience meaning and purpose. The second exception related to meaning and purpose, which was not differentiated by any occupational group in this study in its relationship to global wellbeing (measured via a Flourishing Scale). The size of the beta weights evidenced the strength of the association between meaning and purpose and wellbeing in the quantitative data (refer to Table 14). Meaning and purpose was a central feature of first responders' wellbeing in the qualitative study, referred to by participants as their "why". First responders described feeling engaged, happy and confident, enthusiastic and optimistic, and positive when they achieved their why. First responders described experiences of burnout, disengagement, and traumatic stress when unable to achieve their why. All participants in this study valued the meaning and purpose they derived from their work and non-work activities. Therefore, occupational context made a difference to how workers, including first responders, experienced wellbeing, but not when it came to meaning and purpose.

Survey design may have influenced the strength of the association between meaning and purpose and wellbeing in the quantitative study. A recent study identified that meaning and purpose and flourishing both represent positive psychological functioning, and therefore may not be qualitatively different constructs (Disabato, Goodman, Kashdan, Short, & Jarden, 2016). Other studies have indicated the strong connection between experiencing meaning and purpose in life and favourable health and wellbeing outcomes (Roepke et al., 2014; Steger, Oishi, & Kashdan, 2009; Steger, Sheline, Merriman, & Kashdan, 2013; Ward & King, 2017). Consequently, meaning and purpose is prominent in all models of wellbeing in the positive psychology literature (Hone et al., 2014; Ryff, 2014; Seligman, 2012). The experience of

meaning and purpose in life was also prominently featured in the *heart of wellbeing* theory constructed in chapter seven. To emphasise the significance of this finding, I draw attention to the fact that for over 5,000 participants in this study meaning and purpose was significantly related to their wellbeing. Consequently, experiencing meaning and purpose in the workplace may represent a global job resource that is useful in mitigating against job demands, irrespective of occupational context.

Despite the significance of meaning and purpose as a potential global job resource, it was a challenging job resource for all first responders to consistently achieve. All participants in the qualitative study identified barriers that prevented them from consistently achieving their why. The *heart of wellbeing* theory specifically illustrated the complexities of enacting a sense of meaning and purpose in the emergency services, and demonstrated the processes that first responders use to overcome and circumvent barriers to achieving their why. In light of these findings, I now turn to existing theories that can explain why meaning and purpose is vital to first responder wellbeing, and why meaning and purpose can be difficult to achieve. I use extant knowledge to contextualise the experience of meaning and purpose in the unique work environment of the emergency services.

8.1.2 Achieving meaning and purpose leads to wellbeing via a calling enactment

Data drawn from this study describe how the experience of meaning and purpose leads to workers' wellbeing via a sense of calling. Findings from this study support existing knowledge about callings, calling enactment, and their relationship to wellbeing. Achieving a calling through one's work increases experiences of meaning and purpose, and wellbeing (Duffy, England, Douglass, Autin, & Allan, 2017). When people pursue and achieve goals that they find meaningful, they enact their sense of calling, and experience meaning and purpose as a result (Wrzesniewski, LoBuglio, Dutton, & Berg, 2013). Conversely, when people are unable to enact their sense of calling, they are unable to experience meaning and purpose and their wellbeing is reduced (Bunderson & Thompson, 2009).

The concept of callings is not new and has become a feature of the current occupational wellbeing landscape (Hirschi, Keller, & Spurk, 2018). Wrzesniewski (2011) defined callings as "a meaningful beckoning toward activities that are morally, socially, and personally significant, involving work that is an end in itself" (p. 45). Gazica and Spector (2015) defined *occupational* callings as "an occupation that a person feels drawn to, finds intrinsically enjoyable and meaningful, and identifies as a central part of his or her identity" (p. 2). When people envision work as a calling rather than as a job, they can experience intrinsic or transcendental meaning through their work (Duffy & Sedlacek, 2007; Pratt & Ashforth, 2003). The work allows people to enact their values (Jeffrey Thompson & Bunderson, 2003; Wrzesniewski, 2011). Teaching, medicine, healthcare, zookeeping, animal shelter work, caregiving, and firefighting are some of the jobs that have been associated with calling work in the literature (Bunderson & Thompson, 2009; Esteves & Lopes, 2016; Jo et al., 2018; Nielsen & Jørgensen, 2016; Schabram & Maitlis,

2017; Yoon, Daley, & Curlin, 2017).

Callings are different to other work orientations, such as a job or career, as first identified by Bellah, Madsen, Sullivan, Swidler, and Tipton (1985). People with a job orientation are interested in the material benefits that work offers. A job provides the means to acquire resources used to enjoy time away from work (Bellah et al., 1985). People with jobs do not achieve meaning and purpose through their work, but use work to achieve meaning and purpose in other aspects of their lives. In contrast, career-oriented people are motivated to advance up a social or organisational hierarchy (Bellah et al., 1985; Wrzesniewski, McCauley, Rozin, & Schwartz, 1997). They are invested in their work, but in a different way to people with a job orientation. For career-oriented people, work is symbolic of achievement, status, social standing, and advancement within the occupational structure. When individuals hold job and career orientations, they view work as an entity separate from the rest of their life (Bellah et al., 1985). When a person has a calling work orientation, their identities and occupations are inseparably linked (Bellah et al., 1985). They imbue their work with personal and social meaning, perceiving it as intrinsically enjoyable (Bellah et al., 1985; Wrzesniewski et al., 1997). The concept of a calling includes a broad reference to people who are led by a strong sense of inner direction, to fulfil a social good, or make the world a better place (Dik & Duffy, 2009; Wrzesniewski, Dutton, & Debebe, 2003). Next, I outline how callings can explain the relationship between meaning and purpose and wellbeing in the current study.

Quantitative data in this study indicated that meaning and purpose is related to wellbeing, irrespective of occupation. These data also revealed that people working in higher status occupations experienced higher rates of wellbeing than people working in lower status occupations. Chapter six related the findings to the health gradient, which refers to health differences across the occupational hierarchy (Marmot, 2004). Several factors, including income, were identified as potential contributors to the health gradient in chapter six (Geyer & Peter, 2000). In the context of callings, income and education have been identified as resources that afford people the opportunities to pursue their desired career path (Duffy & Autin, 2013; Duffy et al., 2017; Hirschi, Keller, & Spurk, 2018). Hence, the higher rates of wellbeing among higher status occupational groups might be attributable to an increased ability to pursue a calling. Research indicates that people working in professional and managerial jobs have additional resources and are more likely to pursue jobs in line with a sense of calling than people with fewer resources such as workers in clerical or blue-collar jobs (Hirschi, et al., 2018; Peterson, Park, Hall, & Seligman, 2009; Wrzesniewski et al., 1997). Therefore, enacting a sense of calling might be another feature of the health gradient. Research should further explore what resources help people working in different contexts to enact a sense of calling. In particular, studies should examine whether resources other than income and education can mitigate the health gradient and enable workers in lower status positions to enact a sense of calling in their work.

Interview participants from the qualitative study described a sense of calling to their work. To provide evidence of this observation, I draw on the four elements of a calling that Schabram and

Maitlis (2017) identified in the literature. The first element is that people report a passion for their work (Dobrow & Tosti-Kharas, 2011). The second is that people express enjoyment of their work (Wrzesniewski et al., 1997). Feeling a sense of obligation or moral duty to one's work is the third (Bunderson & Thompson, 2009). Expressing the need to make a prosocial difference in their work is the fourth element (Elangovan, Pinder, & McLean, 2010).

Three first responder participants directly acknowledged that they felt called to emergency service work. P23 stated, "I've got that sense of calling [...] I feel like I'm doing what I should be doing, called to do, built to do, made to do almost". Participants described a passion for emergency service work as a result of personal experiences with the emergency services. Participants enjoyed their work as first responders. P7 said, "I love my job [...] My wife says why don't you get a real job and earn better money? But I really love what I do". Most participants in the qualitative study were led by a strong desire to make the world a better place and had a sense of obligation and moral duty towards their work. P21 illustrated how he worked as a firefighter for prosocial reasons: "My wife and I have always been involved in organisations where we can help people. When the [firefighter] job came along, it was in the same vein, to help people and be involved". Although four participants did not feel called to emergency service work at the beginning of their careers, they said that they developed a sense of calling along the way. Qualitative findings indicated that emergency service work represented a calling for many first responders, and as evidenced next, this is why meaning and purpose is associated with first responder wellbeing.

Calling work is associated with a strong sense of identity, higher levels of work and life satisfaction, and a stronger sense of meaning and purpose in life (Bunderson & Thompson, 2009; Duffy & Sedlacek, 2007; Hall & Chandler, 2005; Nielsen & Jørgensen, 2016; Wrzesniewski et al., 1997). When achieved, callings can also lead to lower levels of emotional exhaustion, burnout, stress, and depression (Hagmaier, Volmer, & Spurk, 2013; Peterson, Demerouti, Bergstrom, Samuelsson, Asberg, & Nygren, A, 2008; Schabram & Maitlis, 2017; Treadgold, 1999; Wrzesniewski et al., 2003). Treadgold (1999) reported that a sense of calling leads to less avoidant styles of coping. Callings confer positive benefits to organisations as workers are more engaged with their work and experience higher morale (Dik & Duffy, 2012; Wrzesniewski et al., 2013). Enacting a sense of calling is associated with passion, enjoyment of one's work, happiness, engagement, and fulfilment (Berg et al., 2010; Dobrow, 2013; Seligman, 2002; Wrzesniewski et al., 1997). Overall, research suggests that people who work with a sense of calling have more positive wellbeing experiences than people who work for monetary gain or career progression (Duffy et al., 2017; Wrzesniewski et al., 2003).

Callings can yield powerful wellbeing returns when enacted. However, as outlined in the following section, callings are difficult to achieve (Bunderson & Thompson, 2009). Bunderson and Thompson (2009) likened callings to a double-edged sword, as they can be both good and bad for people's wellbeing. When people are unable to enact their sense of calling, they experience compassion fatigue, burnout, cynicism, anxiety, and less work satisfaction

(Abendroth & Flannery, 2006; Bunderson & Thompson, 2009; Cardador & Caza, 2012; Jo et al., 2018; Yoon et al., 2017). Having a sense of calling without being able to enact the calling can be more detrimental to wellbeing than having no calling at all, as discussed in the following section (Duffy, Douglass, Autin, England, & Dik, 2016; Gazica & Spector, 2015; Hirschi et al., 2018).

8.1.3 Callings are difficult to achieve

Data generated in this study support existing findings that callings are difficult to achieve (Bunderson & Thompson, 2009; Jo et al., 2018; Nielsen & Jørgensen, 2016; Schabram & Maitlis, 2017). Workers do not reliably enact a sense of calling, and therefore, do not derive meaning from their work (Bunderson & Thompson, 2009; Duffy, Autin, Allan, & Douglass, 2015; Jo et al., 2018; Nielsen & Jørgensen, 2016; Schabram & Maitlis, 2017; Yoon et al., 2017). Animal shelter workers, caregivers, teachers, and zookeepers are some of the occupational groups shown to have problems enacting a sense of calling (Berg et al., 2010; Bunderson & Thompson, 2009; Nielsen & Jørgensen, 2016; Schabram & Maitlis, 2017). Although few studies have investigated callings in the emergency services, Jo et al. (2018) recently found that firefighters who scored higher on measures related to callings also scored higher on burnout and post-traumatic stress measures. These findings are consistent with the qualitative data indicating that achieving a sense of calling in the emergency services is difficult and can erode first responders' wellbeing if not carefully managed. I draw on several theories in this section to explain why enacting a calling in the emergency services is fraught with challenge.

Research indicates that job demands might be especially problematic for people who work with a sense of calling because they interfere with people enacting their values via their work (Maitlis & Ozcelik, 2004; Nielsen & Jørgensen, 2016). Qualitative data in this study demonstrated that job demands prevented participants from achieving their why. For example, two participants resigned from the police service because they could not work in a role that allowed them to enact their sense of calling. Oldham and Hackman (1981) reported that organisational policies and performance management systems can prevent people from completing work that aligns with their values. The qualitative data also demonstrated that conflict between co-workers generated barriers that prevented participants from achieving their why and thereby enacting a sense of calling. Next, I argue that conflict arises from a mismatch between first responders' agendas arising from a calling, job, or career orientation.

Evidence that first responders had different work orientations was extensive. P12 said, "I know blokes, lots of tradies, who work here because they can still be a plumber in their spare time. They're not here because they want to do good, they're here because they get plenty of days off and they get paid reasonably well". P15 reported that she worked in the emergency services as a sense of calling but recognised that many of her co-workers were career-oriented. P15 said, "Some people are just there for the uniform. It's all about the look for them, like driving under lights and sirens. I was never like that; I enjoyed my job, that's what was in it for me". Work

orientations were often mismatched, which led to significant conflict and tension in the workplace. For example, P6 reported that his calling orientation to police work conflicted with his manager's career orientation to police work. P6 said:

> We were supposed to be in a tough job together, fighting a common enemy. But there were those who relied on you to perform well so they could seek advancement in the policing machine. Their identity was in the policing machine, and my benefit to them was only in my performance.

The participants' statements are consistent with research demonstrating that different work orientations can strain work relationships, isolate workers from each other, and make work less enjoyable (Cardador & Caza, 2012).

First responders changed their work orientations throughout their careers. For example, after years of unsuccessfully trying to enact their calling, some first responders changed their work orientation towards a job. Other first responders became more career-oriented to lay the foundation for longer term goals. For instance, six first responders strived to become senior in the emergency services so that they could make a more significant impact in their communities. However, in the pursuit of a career, the first responders encountered new experiences and difference barriers, which often misdirected them away from their original sense of calling. In the process, three first responders lost sight of their why, and they experienced lower levels of wellbeing as a result. Alternatively, other first responders joined the emergency services with a job orientation but shifted towards a calling orientation with new experiences. Similarly, Grawitch, Barber, and Kruger's (2010) research found that police officers change work orientations during their career. The data from the qualitative study indicated that first responders with different work orientations occupy most emergency service work teams. Conflict arising from a mismatch between work orientations has been reported elsewhere in the literature on callings (Bunderson & Thompson, 2009). I argue next that conflict arising from mismatched work orientations, and collegiality arising from matched work orientations, can be explained by theories related to group dynamics.

The optimal distinctiveness theory suggests that people cannot survive outside of cooperative, yet interdependent, groups (Brewer, 2012). Cooperative groups not only provide shared resources, a division of labour, and mutual protection, but also require individuals to give resources and efforts to contribute to group outcomes (Brewer, 1991, 2012). According to Brewer (1991), cooperative living requires that people experience feelings of trust and obligation—trust in the sense that people believe, "if I cooperate, others will do their share and reciprocate" (Brewer, 2012, p. 65). Obligation in the sense that one will "do one's own share and reciprocate others' cooperation" (Brewer, 2012, p. 65). The optimal distinctiveness theory suggests that for groups to function well, team members must find an optimal balance between the need for inclusion and the need for distinctiveness. Achieving this balance results in higher group performance and individual wellbeing (Bidee et al., 2017; Ferdman, Avigdor, Braun, Konkin, & Kuzmycz, 2010; Stamper & Masterson, 2002). When teams were occupied by first responders with calling work orientations, it created the conditions for inclusiveness and distinctiveness—inclusiveness in the sense that as team members worked together towards

prosocial goals, it created additional resources that also helped team members achieve their own why, thereby meeting their need for distinctiveness. First responders were more likely to meet their need for inclusiveness and distinctiveness if they shared a calling orientation to their work. Conflict arose when team members had different work orientations. Individuals who prioritised their own why met their need for distinctiveness, but in doing so, they compromised their inclusivity in the group. Conflict in teams has been associated with self-interested behaviour in other research (Wilson, Ostrom, & Cox, 2013). Next, I argue that when team members have a calling orientation to their work they are more cooperative and better equipped to manage common pool resources.

The Evolutionary Institute (2014) drew on evidence that shows groups must be capable of managing common pool resources to experience team collegiality and cooperation. Common pool resources include forests, oceans, beaches, air, and fisheries (Wilson et al., 2013). A resource is held in common when many people have ownership and access to it (Hardin, 1968). Certain conditions must be met for groups to manage common pool resources and avoid what Hardin (1968) referred to as the tragedy of the commons. According to Hardin (1968), people will try to increase their exploitation of a common pool resource because they receive the full benefit of the increase but the costs are spread among all users. In other words, self-interested people are more likely to destroy common pool resources because the benefit to one person using more of the resource outweighs the cost to that individual of the resource's overuse (Hardin, 1968). Emergency service organisations contain common pool resources, which as described next, are subject to the tragedy of the commons.

Ostrom, Parks, and Whitaker (1973) researched police departments in the United States and reported that in large police services police officers were required to negotiate significant bureaucracy, which strained common pool resources (Ostrom, Parks, & Whitaker, 1973). Ostrom et al. (1973) gave examples of common pool resources that were relevant to their research, such as training and forensic resources. Wilson et al. (2013) demonstrated that common pool resources apply to "nearly any situation where people must cooperate and coordinate to achieve shared goals" (p. 22). In the context of this study, common pool resources included education, different work experiences, salary, working with good co-workers, time off work, favourable jobs, and promotion opportunities. When first responders prioritised these resources to progress their own work orientation, it led to the tragedy of the commons, and greater conflict among work teams. I contend next that avoiding the tragedy of the commons will improve first responder wellbeing.

Qualitative data in this study demonstrated that when first responders worked in teams with members all oriented towards their work as a calling, they avoided the tragedy of the commons. The team members did not have exactly the same values and needs, but they did have a deep sense of calling towards their work as first responders. Their sense of calling related to a desire to help other people, and to help each other, rather than to serve their own needs for a job or career. When co-workers shared a similar calling towards their work, they experienced trust,

camaraderie, support, and a shared sense of collegiality within their work team. Sharing a similar calling towards their work also appeared to foster higher levels of morale in first responders' teams. In collegial teams, not only did first responders achieve their own why, but they pooled resources to help each other achieve their why. Collegiality was a resource that first responders used to enact their sense of calling. The opposite was true of first responders working in teams that experienced conflict. The conflict promoted self-interested behaviour, which created conditions for the tragedy of the commons. Studies indicate that other first responders experience low collegiality in their workplaces (Burke, 2016; Collins & Gibbs, 2003; Cotton et al., 2016; Reynolds & Wagner, 2007).

Evidence from this study indicates that first responders experience meaning and purpose when they enact their sense of calling, and thereby achieve their why. However, the positive effects of enacting a calling depend on first responders having the resources to do so. It was common for first responders to encounter barriers that prevented them from achieving their why. Therefore, the final theme in this section relates to how first responders use their toolbox to deal with barriers to enact a sense of calling in their work.

8.1.4 First responders need specific tools and skills to overcome barriers to achieving their why

This section builds on the previous three sections and uses new theories to support the knowledge that first responders need access to key foundational tools and specific skills to achieve their why in the emergency services. The *heart of wellbeing* theory presented in chapter seven illustrated that first responders use specific foundational tools to build their toolbox so that they can overcome barriers to achieving their why (see Figure 12). The more tools that first responders had in their toolbox the more capable they felt to overcome and circumvent barriers to achieving their why. The findings are consistent with studies showing a strong link between job resources and workers being able to enact a sense of calling and meaning in their job role (Hirschi et al., 2018; Humphrey, Nahrgang, & Morgeson, 2007). The tools identified by first responders met their psychological needs for autonomy, competence, and relatedness, which as discussed next, enabled them to achieve their why confidently.

The self-determination theory (SDT) is used to explain why the foundational tools identified in this study are relevant to first responders' wellbeing (R. M. Ryan & Deci, 2017). Research using the SDT demonstrates that when people meet their need to feel autonomous, competent, and connected to others, they can function optimally in their lives (Deci & Ryan, 2008). Meeting the need for autonomy, relatedness, and competence was linked to calling enactment and wellbeing in a recent study on clergymen (Conway, Clinton, & Sturges, 2015).

Autonomy is experienced when people's behaviours are congruent with their authentic interests and values (R. M. Ryan & Deci, 2017). When acting with autonomy, one engages in behaviours wholeheartedly, whereas one experiences incongruence and conflict when doing what is contrary to one's volition. When first responders had access to tools that promoted their

autonomy, such as financial security, working with good co-workers, or the ability to work in a desired job, they were more capable of pursuing their callings. In the absence of crucial tools, participants did not meet their need for autonomy. Some first responders shifted their work orientation to a job or career when they could not enact a sense of calling in their work because of a lack of autonomy. The corresponding shift in work orientation affected participants' wellbeing.

Competence refers to people's basic need to feel effective and have mastery of their environment (R. M. Ryan & Deci, 2017). Research unequivocally shows that people need to feel competent to experience higher wellbeing (Bandura, 1982; R. M. Ryan & Deci, 2000, 2017). Competence is akin to self-efficacy, rather than actual competencies, and increases people's confidence in their ability to complete a task (Conway et al., 2015). Competence and confidence were vital foundational tools reported by most participants in this study. Tools including psychologists, education, training, experience, and supportive management promoted participants' competence and confidence in their ability to achieve their why. Absence of these tools eroded participants' confidence and competence.

Relatedness concerns people's need to feel socially connected (Bowlby, 1979; R. M. Ryan & Deci, 2017). In the SDT, relatedness most typically occurs when people feel cared for by others, and when they have a sense of belonging and feeling of significance among others (Deci & Ryan, 2008). Deci and Ryan (2014) noted that relatedness is also about the experience of giving and contributing to others. The qualitative data revealed that "good co-workers" were first responders' most significant foundational tool. Working with good co-workers created collegiality, and a platform to build other resources. Other tools such as psychologists and having access to work–life balance were also foundational as they enabled first responders to develop positive workplace relationships and build social connections outside of the workplace. The qualitative data indicated that when first responders worked with conflict, they did not meet their need for relatedness. Working with conflict was one of the most significant barriers preventing participants from achieving their why, and it also created conditions for distress and trauma. The findings from the qualitative study should not be underestimated as social support is one of the most influential factors related to resilience, post-traumatic growth (PTG), and recovery after exposure to trauma (Folkman, 2011; Hogg, 1992; Pietrantoni & Prati, 2008; Prati & Pietrantoni, 2009; Schumm, Briggs-Phillips, & Hobfoll, 2006).

Working with collegiality was another tool that enabled first responders to meet their need for autonomy, competence, and relatedness. Working with collegiality allowed first responders to share common pool resources and avoid the tragedy of the commons. Indeed, Bidee et al. (2017) supported this observation by demonstrating that when teams meet people's need for autonomy, competence, and relatedness, it increases team members' feeling of inclusivity and distinctiveness, which leads to a range of positive outcomes.

The *heart of wellbeing* theory and associated theories indicate that the tools and resources available to first responders are predominantly social. As first responders rely on each other in their job role, they also need to build a team toolbox, which is discussed further in the following section. This section now addresses the skills that first responders used to circumvent barriers to achieving their why. The *negotiating*, *navigating*, and *evaluating skills* used by first responders are likened to job, team, and life crafting. In the remainder of this section, I explain what job and team crafting is and relate each process to the current study. I then expand upon the original conception of job crafting to include life crafting, again connecting this concept to the first responders in this study. The section concludes by relating the process of crafting to wellbeing and callings research.

Workers job craft by making physical, social, and cognitive changes to their job roles to meet their individual needs and values (Wrzesniewski & Dutton, 2001). Job crafting is one way of proactively changing one's job resources and demands (Tims & Bakker, 2010). Rather than changing the structural characteristics of their jobs, as would be the case in job redesign, job crafting is less formal. Job crafting is an informal process used by some workers to shape and mould aspects of their work experience to align with their values and needs (Wrzesniewski & Dutton, 2001). Job crafting is a form of proactive behaviour initiated by employees, rather than management (Grant & Ashford, 2008). Research shows that people craft their jobs in different ways (Wrzesniewski & Dutton, 2001; Wrzesniewski et al., 2013). Evidence from the qualitative study indicates that not only do first responders job craft in different ways, but they also team and life craft in different ways.

All of the first responders interviewed in this study used *negotiating*, *navigating*, and *evaluating* skills to change how they engaged with their job. For example, a police officer in this study reported that he started his career with a focus on incarcerating perpetrators. However, when he became a detective he made a cognitive change to his job by focusing on a victim-centric style of policing. The police officer crafted his job in different ways when he changed the focus of his job from incarcerating perpetrators to supporting victims. The police officer said that the change helped him to feel more effective in his job role. A paramedic used *negotiating skills* to make social changes to his job. He proactively avoided management and made efforts to work with certain co-workers as a way of crafting his job role. A firefighter used his skills to make physical changes to his job. He created new opportunities to achieve his why after he was required to work in a non-operational job because of a medical condition. Not only did he make physical changes to his job role, but he also made physical changes to his non-work activities to continue achieving his why. As discussed further below, the types of *negotiation*, *navigation*, and *evaluation skills* used by first responders were also a form of team and life crafting.

Studies have demonstrated that teams job craft using the same strategies as individuals (Leana, Appelbaum, & Shevchuk, 2009; Tims, Bakker, Derks, & van Rhenen, 2013). Team job crafting happens when workers determine together how they can alter their work to meet their shared work goals (Leana et al., 2009). Tims, Bakker, Derks, and van Rhenen (2013) stated

that team job crafting occurs when team members together decide which job resources they need to accomplish their tasks, and together they mobilise resources to meet their job demands (Tims, Bakker, Derks, & van Rhenen, 2013). Studies demonstrate that when teams craft together, it leads to better performance at both the team and the individual level (Leana et al., 2009; McClelland, Leach, Clegg, & McGowan, 2014; Tims, Bakker, Derks, & van Rhenen, 2013). In the current study, team crafting occurred when there was high collegiality and low conflict. Collegiality created the conditions for individual team members to trust each other and to pool resources to achieve common prosocial goals.

The qualitative data also demonstrated that first responders use skills to craft other aspects of their life to achieve their why. For example, first responders life crafted by engaging in different activities in their non-work time to develop other identities, such as a parent, sports person, or volunteer. The concept of life crafting is supported in research by Berg, Grand, and Johnson (2010), who showed that workers use the same actions as job crafting to enact a sense of calling outside of their workplace. By crafting leisure and non-work activities, people achieve the same sorts of pleasurable psychological states (enjoyment and meaning) that are associated with enacting occupational callings (Berg et al., 2010). When first responders felt unable to meet their needs and values at work, they life crafted so that they could achieve their why in at least one aspect of their life. Research shows that having multiple social roles, or identities, is beneficial to wellbeing because it provides more opportunities for people to experience meaning and purpose in life (Thoits, 2012). The “identity accumulation hypothesis” has obtained substantial and consistent empirical support (Thoits, 2012, p. 361). As discussed in the following section (8.2 Enacting the *heart of wellbeing* in the emergency services), emergency service organisations are encouraged to support first responders in developing other identities.

People job craft in different ways, depending on their work orientation (Wrzesniewski & Dutton, 2001). For example, as shown by Wrzesniewski and Dutton (2001), job-oriented workers are more likely to craft their job towards pay. Career-oriented workers are more likely to craft their job so that they interact with people who are more powerful than them. They may also engage in highly visible tasks that look good for the organisation. Calling-oriented workers are likely to craft their job so that they can help as many people as possible. The data from the qualitative study indicate that co-workers rarely have the same work orientation at the same time. Consequently, first responders will job craft in different ways. Research indicates that individual job crafting affects other team members and team crafting (Tims, Bakker, Derks, & van Rhenen, 2013; Wrzesniewski & Dutton, 2001). Therefore, crafting is a dynamic experience. Data from the qualitative study demonstrated that not only does first responders’ work orientation (their why) change how they job, team, and life craft, but so do the contents of their toolbox. With fewer tools, first responders had fewer skills and were more likely to change their work orientation from a calling to a job or career. Thus, it appears that context can enable or hinder different forms of crafting.

8.2 Chapter summary

The integrated findings from this mixed methods study have identified that wellbeing is a contextual experience, except for the component of meaning and purpose. In this section, I have used theories related to callings to illustrate how meaning and purpose is contextually related to first responders' wellbeing and why meaning and purpose is difficult for first responders to consistently achieve. In the next chapter I discuss the significance of these findings for emergency service organisations.

Chapter 9. Discussion

The overall purpose of the thesis was to produce new knowledge to help first responders better manage the stress related to emergency service work and to identify suitable wellbeing interventions for the emergency services. To that end, this discussion embraces the four main themes that were identified in the previous chapter to argue why emergency service organisations should approach first responder wellbeing as a holistic and contextual experience. In this discussion, I first reinforce why the experience of meaning and purpose is central to wellbeing. I then argue why promoting wellbeing as a holistic experience should a part of wellbeing policy in the emergency services. Next, I contend that emergency service organisations need to think beyond workplace content, such as operational stress and trauma when protecting first responder wellbeing. The evidence collected in this study indicates that there needs to be a greater emphasis on addressing first responder wellbeing via workplace context.

9.1 Meaning and purpose is central to wellbeing

A key finding of this mixed methods study was the centrality of meaning and purpose to wellbeing, irrespective of context. This section first explains why meaning and purpose is central to wellbeing using existing theories in the meaning literature. The evidence considered in this section is used to justify why wellbeing should be approached from a positive, versus a deficit, perspective in the emergency services.

Frankl (1905–1997) described the salutary role of meaning in preventing despair and suicide among prisoners of concentration camps during the Holocaust. Frankl (1985) theorised that finding meaning in experiences is central to human motivation and ability to cope with life's challenges. According to Frankl (1985), meaning can be discovered in life's successes and challenges, and in the pursuit of one's ultimate purpose in life. The experience of meaning is unique to each of us, and according to Frankl (1966), people's experiences, skills, abilities, and aims determine what activities they find meaningful. Frankl (1985) theorised that people become vulnerable to psychological disorders when they lack recognition of meaning in life situations and, therefore, live in an "existential vacuum" (p. 112). Frankl (1985) suggested that if a person lives in an existential vacuum, they are more likely to fill the vacuum with meaningless activities such as substance misuse, making them vulnerable to psychological disorders and suicide. Frankl (1985) reasoned that finding a meaning in life is a universal human goal from which people derive a sense of identity and the strength to carry on in challenging circumstances.

Decades of research have reinforced Frankl's (1985) theory that meaning in life is critical to human wellbeing. Repeatedly, studies have shown that meaning in life correlates positively with psychological wellbeing (Hamling, Jarden, & Schofield, 2015; King, Hicks, Krull, & Del Gaiso, 2006; Mascaro & Rosen, 2005; Steger, 2009; Steger, Oishi, & Kashdan, 2009). Research also indicates that lacking meaning in life is associated with increased ill-being, including suicide

(Aviad-Wilchek & Ne'eman-Haviv, 2017; Edwards & Holden, 2003; Petrie & Brook 1992; Psarra & Kleftaras, 2013; Heisel & Flett, 2014; Volkert, Schulz, Brutt, & Andreas, 2014). Indeed, the first responders interviewed in this study reported increased depression and distress when they could not carry out their first responder duties. I contend that a possible explanation for the increased risk of suicide in the emergency services is because barriers consistently prevent first responders from achieving their why. That is, barriers prevent first responders from enacting their sense of calling and living with a sense of meaning and purpose.

Recently, Sinclair, Bryan, and Bryan (2016) investigated whether meaning in life serves as a protective factor against suicide. They tested their hypothesis using 393 military personnel and veterans with elevated post-traumatic stress disorder (PTSD) and depression. Sinclair et al. (2016) found that meaning in life (versus searching for meaning in life) significantly reduced the pathway from suicide ideation to suicide attempts for military personnel with PTSD and depression. Similarly, Kleiman and Beaver (2013) reported that the presence of meaning in life was associated with decreased suicidal ideation over time and reduced lifetime odds of a suicide attempt in a sample of 670 undergraduate students. According to Kleiman and Beaver (2013), the presence of meaning in life promoted suicide resiliency above the effects of low levels of risk factors such as psychopathology and high levels of protective factors such as gratitude. Other research has reinforced the links between meaning in life and decreased suicidal ideation and suicide attempts (Harlow, Newcomb, & Bentler, 1986; Heisel & Flett, 2004; Lapierre, Dubé, Bouffard, & Alain, 2007; Westerhof, Bohlmeijer, van Beljouw, & Pot, 2010).

A lack of meaning in life has also been associated with hopelessness (Marco, Perez, & Garcia-Alandete, 2016). Hopelessness is one of the most reliable and robust risk factors of suicide ideation and attempts (Beck, Steer, Kovacs, & Garrison, 1985; Klonsky, May, & Saffer, 2016; O'Connor & Nock, 2014). Marco et al. (2016) investigated the effect of meaning in life on hopelessness and suicide and found that as meaning in life decreases, hopelessness and the occurrence of suicidal behaviours increase. Although no known studies have previously examined relationships between meaning and purpose, wellbeing, and suicide in an emergency service context, Violanti et al. (2016) recently examined the role of hopelessness in police wellbeing. Violanti et al. (2016) found that organisational stress (administrative practices and lack of organisational and leadership support) had a greater effect on police officers' perceptions of hopelessness than operational stress. Moreover, the researchers reported that hopelessness was proportionally and positively correlated with increases in the perceived lack of organisational support of police officers.

Taking account of the above research, I contend that some first responders could be at increased risk of suicide, not because of operational trauma, but because they cannot achieve their why and experience meaning and purpose in their lives. Research related to post-traumatic growth (PTG), discussed in the next section, reinforces my argument that when first responders achieve their why, they can tolerate, and even grow, from traumatic operational experiences. In

the next section I discuss why wellbeing should be promoted in the emergency services as a holistic experience.

9.2 Promoting wellbeing in the emergency services

Evidence indicates that people can thrive from traumatic experiences if they are well supported and find meaning in the experience (Calhoun & Tedeschi, 2014; Lykins, Segerstrom, Averill, Evans, & Kemeny, 2007; Walser & Westrup, 2007). The *heart of wellbeing* theory developed in this study demonstrates that better wellbeing outcomes could be achieved for first responders by promoting wellbeing, viz., helping them to achieve their why, rather than preventing depression and anxiety. However, wellbeing interventions for first responders continues to be approached from a deficit perspective. For example, LaMontagne et al. (2016) are trialling an integrated wellbeing program in the Victoria Police, Australia, which includes a focus on health promotion. However, the measures of wellbeing in their study are depression and anxiety, which are deficit based (LaMontagne et al., 2016). In this section, I present further evidence that illustrates why wellbeing interventions should aim to promote and measure wellbeing, such as experiencing meaning and purpose, as much as to prevent ill-being, such as depression and anxiety.

Contextualising wellbeing interventions to first responders achieving their why may be a more effective and meaningful way of increasing first responders' resilience and PTG and reducing their post-traumatic stress and suicide. PTG is defined as "positive psychological change experienced as a result of the struggle with highly challenging life circumstances" (Tedeschi & Calhoun, 2004, p. 1). Positive changes are reported as a greater appreciation for life, changing life priorities, more intimate relationships with others, a greater sense of personal strength, recognition of new possibilities for one's life, and spiritual development (Tedeschi & Calhoun, 1996). PTG shifts people towards intrinsic goal pursuits, which are oriented towards building meaningful and lasting resources and satisfying the psychological needs for autonomy, relatedness, and competence (Lykins et al., 2007). PTG shifts people away from extrinsic goal pursuits, which are oriented towards building only transient resources and satisfying superficial needs (Lykins et al., 2007). The same sorts of experiences as those associated with PTG are associated with enacting a sense of calling, which has implications for the emergency services.

Significant research has investigated the positive relationship between PTG and wellbeing in the emergency services (Armstrong et al., 2014; Kirby, Shakespeare-Finch, & Palk, 2011; Paton & Burke, 2007; Sattler, Boyd, & Kirsch, 2014). However, no known studies have investigated the relationship between enacting a sense of calling, resilience, PTG, post-traumatic stress, and suicide in first responders. The *heart of wellbeing* theory constructed in this study is supported by other evidence that signifies a positive relationship between enacting a sense of calling, meaning and purpose, and wellbeing (Duffy et al., 2017; Peterson et al., 2009). Evidence in other research has also demonstrated a positive correlation between resilience, PTG, and

reduced post-traumatic stress (Calhoun & Tedeschi, 2014; Kleim & Ehlers, 2009; Meng, Wu, & Han, 2018).

The findings indicate that the emphasis on trauma resilience in the emergency service organisations is no longer plausible. Meaning and purpose is central to wellbeing and should be incorporated into wellbeing policy and practice in emergency service organisations. The final two sections discuss why workplace context prevents calling enactment and the implications of this, and what emergency service organisations should do to overcome barriers to calling enactment.

9.3 Workplace context prevents calling enactment

Data collected in this study demonstrated that first responders achieve a sense of meaning and purpose via a calling enactment. However, evidence considered in chapter eight indicates that callings are difficult to achieve. In the case of the emergency services, barriers consistently prevent first responders from enacting their sense of calling. In this section, I explain why the workplace context prevents calling enactment and the implications that this has for first responders' wellbeing.

In this study, the barriers that prevented first responders from achieving their why were predominantly organisationally, rather than operationally, related. First responders said that they entered the emergency services expecting stressful and potentially traumatic operational events. But they acknowledged that they were ill-prepared for the organisational barriers that prevented them from achieving their why. P21 reported:

> I expected grizzly jobs. To me a grizzly job is probably no more difficult than an angry customer in a shoe shop, it's just what you do. But when HR and managers start doing those sorts of things [...] that makes everything worse. I didn't sign up for that.

P21 went on to explain that managers were the most significant source of stress for him in his career as a first responder. He said, "That's the sort of thing that upsets me more than picking up a woman's brain with a spade off the road, or anything else like that that I've had to do".

First responders did not report being incapacitated by trauma and distress in this study. However, they reported experiencing significant distress when organisational barriers prevented them from achieving their why. Four participants were brought to tears in the interview when recalling the organisational factors that prevented them from achieving their why. Other participants reported distress, and vulnerability to ill-health outcomes such as post-traumatic stress, alcohol misuse, and depression when they could not achieve their why. The findings are consistent with Tuckey and Hayward's (2011) finding that organisational stress depletes first responders' resources, meaning that fewer resources are available to invest in coping with operational stress and trauma when it arises. Evidence in this study also indicates that first responders are more vulnerable to operational trauma sequelae when they feel ill-equipped to deal with organisational stress.

The finding that organisational factors are a bigger source of first responders' distress than operational trauma is not new. Repeatedly studies demonstrate that organisational stress can be more problematic for first responders' wellbeing (Alexander & Klein, 2001; Armstrong et al., 2016; Bange, 2018; Collins & Gibbs, 2003; Cotton et al., 2016; Dropkin et al., 2015; Gershon et al., 2008; Hall et al., 2010; Maguen et al., 2009; Tuckey & Hayward, 2011; Violanti, Andrew, Mnatsakanova, Hartley, Fekedulegn, & Burchfiel, 2016). Despite evidence that organisational factors are detrimental to first responder wellbeing, wellbeing initiatives continue to focus on developing first responders' resilience to adversity, and promoting recovery and growth following traumatic operational job stress (Gist & Taylor, 2008; Hamling & Jarden, 2016; LaMontagne et al., 2016; Shakespeare-Finch, 2007; Shochet et al., 2011; Varker et al., 2018). The evidence indicates that workplace context may be more important to first responder wellbeing than the content of emergency service work, such as operational trauma.

Addressing workplace context is good practice given that context changes how people experience events, including traumatic events (Diener & Suh, 2000; Uchida & Ogihara, 2012; Vogt, Erbes, & Polusny, 2017). For example, Wagner, Monson, and Hart (2016) demonstrated that contextual factors such as the type of trauma experienced, gender, the timing of social support, and who provides the social support, all combine to influence how people experience trauma. To change workplace context, first responders need access to specific tools and resources. The following section argues that wellbeing interventions may be more effective if they focus more on equipping first responders to deal more effectively with workplace context.

9.4 Promoting wellbeing via workplace context

Our data indicate that the toolbox can promote first responder wellbeing via their workplace context. The toolbox provided a way for all first responders to overcome barriers that prevented them from achieving why. The toolbox also enabled first responders to develop a range of skills that enabled them to adaptively and flexibly circumvent barriers to consistently achieve their why. The toolbox contents appeared to vary according to each participant's unique context.

Depending on the foundational tools available to first responders, they built a different type of toolbox. The toolbox determined what skills first responders used to circumvent barriers to achieve their why. Consistent with the conservation of resources theory, discussed in chapter seven, first responders need access to specific foundational tools and resources to leverage other key resources to overcome and circumvent barriers to achieve their why (Hobfoll, 1989; Hobfoll & Shirom, 2000). The majority of foundational tools identified in this study related to workplace context. These included, working with good co-workers, working with collegiality, psychologists, work-life balance, education and experience. As identified in chapter seven, these foundational tools are both individual and team related. Therefore, there should be equal emphasis on optimising team and individual resilience in the emergency services. The focus should be on building a team and an individual toolbox that includes the foundational tools reported by the first responders interviewed in this study. Although individual resilience interventions are common in emergency services organisations, team resilience and wellbeing

interventions are not (Hamling & Jarden, 2015; LaMontagne et al., 2016; Shochet et al., 2011). This section now discusses ways to build a team and individual toolbox in the emergency services.

The team toolbox in this study was founded on working with collegiality and good co-workers, and not working with conflict. Therefore, emergency service organisations should provide more opportunities for teams to engage in social team building activities as a way of promoting collegiality and camaraderie in work teams. Team building activities would help to build a team toolbox, which is needed as many first responders in this study said that team building opportunities had declined significantly over their careers. Decreased resources, occupational health and safety legislation, and changing workplace culture had reportedly compromised camaraderie and collegiality in the emergency services. I argue that decreased resources have contributed to the tragedy of the commons (as discussed in section 8.1.3) and consequently increased conflict in the emergency services. Emergency service organisations must take urgent action to help first responders and their teams manage common pool resources so that first responders feel capable of achieving their why.

Group-level wellbeing interventions, such as the prosocial intervention, contain evidenced-based strategies shown to promote cooperation in work teams (Bolino & Grant, 2016; Evolutionary Institute, 2014; Hayes, 2016; Hayes, Barnes-Holmes, & Wilson, 2012). The prosocial intervention teaches individuals and teams how to achieve value-congruent living, and thus, it is a foundational tool for both the individual and the team toolbox (Evolutionary Institute, 2014; Hayes, Luoma, Bond, Masuda, & Lillis, 2006). Although relatively new, the prosocial intervention shows promising results for improving group collegiality and reducing team conflict (Evolutionary Institute, 2014). These tools specifically aim to increase group identity and clarity of purpose, which help groups to work together in pursuit of their common goal. As evidenced in the current study, collegiality reduced roadblocks and enabled participants to achieve their why. Collegiality is particularly pertinent in the emergency services because first responders often rely on each other to keep safe and to do their jobs effectively. The prosocial model provides the tools to increase group efficacy and collegiality explicitly.

Building the individual toolbox should include opportunities for first responders to understand their own why, and how this aligns, or conflicts, with others around them. Teaching first responders how to adaptively job, team, and life craft could be a way to accommodate their changing values and needs and continue to achieve their why. Regular sessions with psychologists, or trusted co-workers, could help first responders job craft by maintaining clarity of their why and adjusting their why to suit their changing values and circumstances. Life crafting could be facilitated by encouraging first responders to develop interests outside of work, nurture personal relationships, and find opportunities for experience and education. Life crafting would help first responders to consistently achieve their why in at least one aspect of their life. Given that barriers compromise first responders' wellbeing, that is, by not being able to achieve their why, I argue that first responders and their teams need the skills to resolve the conflict. The

therapeutic technique called acceptance and commitment therapy (ACT) may provide the ideal scaffolding for the first responder toolbox, as detailed below (Hayes, Luoma, Bond, Masuda, & Lillis, 2006).

ACT is an evidence-based contextual cognitive-behavioural intervention designed to help people live meaningful lives in accordance with their values (Hayes et al., 2006). Values are defined as "verbally constructed, globally desired life directions" (Wilson, Hayes, Gregg, & Zettle, 2001, p. 235). ACT provides people with tools to help them better deal with problems as they live in accordance with their values (Harris, 2009). The tools focus on helping people to skilfully accept all of their experiences (positive and negative) as they flexibly navigate towards values-based living (Harris, 2009). The aim of ACT is not to avoid or prevent problems, or even reduce people's symptoms of distress per se (Harris, 2009). The principle underlying ACT is that distress is a normal part of life and can be associated with a meaningful life if people know how to live in accordance with their values (Harris, 2009). Therefore, ACT contains tools that teaches people how to identify their values and how to deal with problems and distress that arise in the pursuit of their values (Hayes et al., 2006). The tools provided by ACT are consistent with the tools used by participants in the qualitative study. For example, the ACT framework also includes tools such as clarity of purpose, perspective, problem-solving, and building an identity repertoire for the purpose of helping people to live according to their values.

ACT interventions have been shown to promote wellbeing and workers' performance in different cohorts, including populations who may feel called to their work (Brinkborg, Michanek, Hesser, & Berglund, 2011; Wersebe, Lieb, Meyer, Hofer, & Gloster, 2018). For example, Vilardaga et al. (2011) investigated the effectiveness of an ACT intervention to reduce burnout in 699 addiction counsellors. Evidence indicates that burnout is problematic among addiction counsellors who face chronic workplace stress, including low resources, mandated clients, and a continually changing work environment. The study demonstrated that an ACT intervention enabled the counsellors to identify, clarify, and commit to their work-related goals and values rather than struggling with systemic workplace stressors. Indeed, Vilardaga et al. (2011) found that the processes involved in ACT had stronger and more consistent relationships with reduced burnout than reducing stressful organisational factors.

In summary, first responders in this study did not experience wellbeing as an individual experience. They had to negotiate complex social, political, and cultural systems so that they could achieve their why. Other research suggests that emergency service organisations are bureaucratic, which compromises common pool resources and increases the tragedy of the commons (Ostrom et al., 1973). I argue that emergency service organisations must take urgent action to help first responders and their teams manage common pool resources, so that first responders feel capable of achieving their why. Optimising individual and team resilience using interventions such as prosocial therapy (Evolutionary Institute, 2014) and ACT (Hayes et al., 2006) would be one way to help first responders to *achieve my why* and teams to *achieve our why*. In doing so, first responders may have increased opportunity to enact their sense of

calling, experience meaning and purpose in their lives, and have better wellbeing protection as they undertake emergency service work. As shown in Figure 15, wellbeing programs should emphasise both individual and team interventions to provide first responders with the tools needed to achieve their why and experience wellbeing. Emergency service organisations should measure and monitor first responder wellbeing and ill-being to ensure that their wellbeing is promoted as much as their ill-being is prevented.

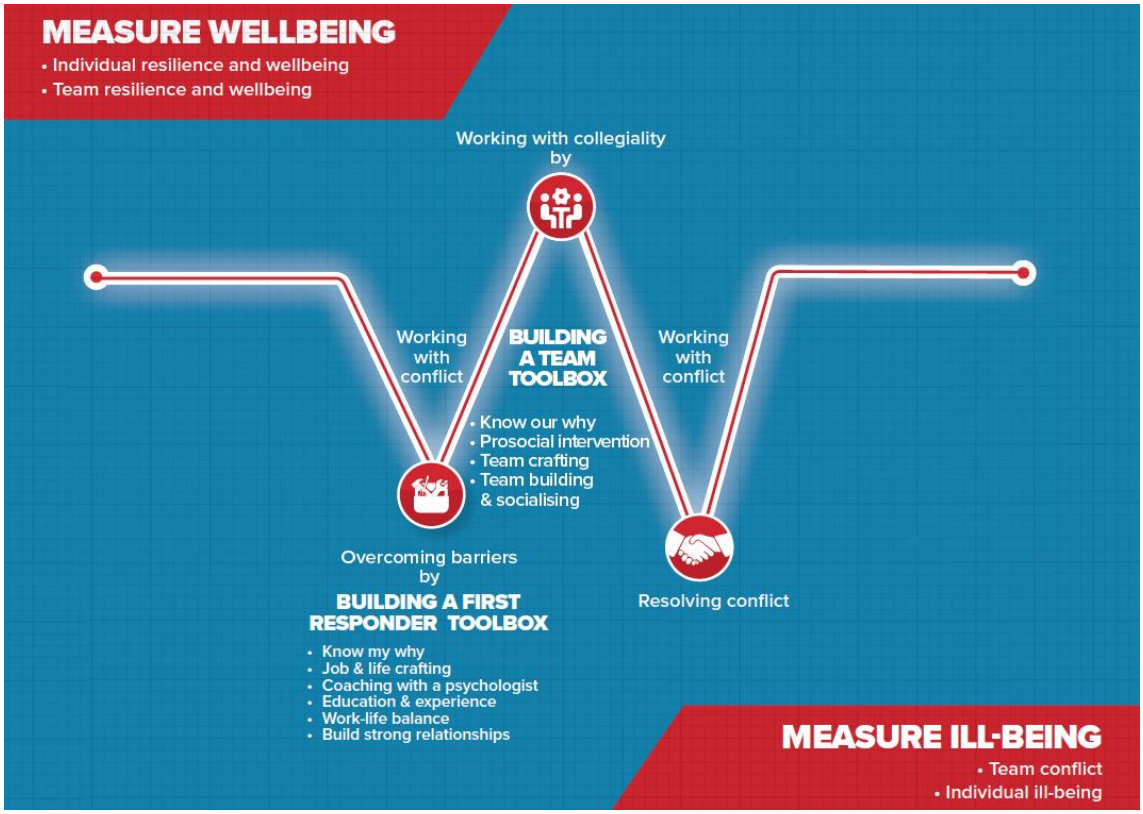


Figure 14. Bringing the heart of wellbeing into the emergency services

9.5 Chapter summary

Based on the new knowledge generated in this thesis, I argue that emergency service organisations should put the heart into wellbeing policy and practices by enabling first responders to achieve their why. In doing so, not only must first responders have the support and knowledge to deal with stressful and potential traumatic operational work, they must also have the support and knowledge to deal with stressful and potentially traumatic organisational work. Emergency service organisations should ensure that all first responders have access to the high leverage individual and team factors that enable them to overcome barriers to achieve their why.

Chapter 10. Conclusion

This final chapter concludes the thesis by first summarising the main contributions that this research makes to new knowledge. In this chapter I then recommend directions for future research. I finish this chapter by discussing the strengths and limitations of this mixed methods study, and summarise the recommendations for practice and policy, and education.

10.1 Contributions to knowledge

The first chapter of this thesis introduced the thesis topic and drew attention to the gaps in knowledge about wellbeing in occupational contexts. The quantitative data demonstrated that different factors (job resources) were associated with wellbeing in different occupational contexts and workers experience different levels of wellbeing depending on their job. The findings suggest that wellbeing is associated with increased resources and therefore may be another feature of the health gradient. The *heart of wellbeing* theory also supported existing knowledge that people need access to different job resources to manage their wellbeing. However, the current study adds new knowledge by demonstrating that people need access to different job resources depending on their work orientation. For example, a calling-oriented worker is likely to perceive different barriers and experience different job demands from those of a career-oriented worker. Therefore, people have different wellbeing needs that vary according to their work orientation. Workplaces are advised to help people understand their work orientation and provide resources to match the workers' unique wellbeing needs.

Chapter one also outlined the vast body of literature that indicates emergency service work can be detrimental to first responders' and their families' wellbeing. In chapter one, I drew on recent research to evidence that little is known about how first responders experience wellbeing and how to promote wellbeing in the emergency services. This research is novel in that the constructed theory of first responder wellbeing explains how to promote first responder wellbeing, rather than prevent ill-being. The *heart of wellbeing* illustrates for the first time what first responder wellbeing is, and why and how people flourish in the role of a first responder.

This study is also the first to identify what wellbeing represents to first responders from their perspective using a grounded theory approach. By using grounded theory methods, I have identified the high leverage factors and processes responsible for first responder wellbeing. Grounded theory methods enabled me to present a more contextual, and relevant, understanding of first responder wellbeing than what exists in the literature. By using grounded theory methods, I was also able to demonstrate how first responders deal with organisational stress to achieve and maintain their wellbeing. In doing so, I shift the focus away from operational stress and onto factors that first responders report are detrimental to their wellbeing. The *heart of wellbeing* theory emphasises the importance of first responders working in resilient and collegial teams. Working with collegiality reduced organisational stress, and it enabled first responders to pursue and achieve their why. The findings should be an encouragement for

emergency service organisations to place an emphasis on promoting resilient teams equal to the emphasis placed on promoting resilient individuals.

Few studies have specifically investigated first responder wellbeing from a callings perspective. This study produced compelling evidence that many first responders feel called to emergency service work. I argue that workplace conflict arises from first responders having different work orientations and crafting their job in different ways. The *heart of wellbeing* theory illustrates for the first time how first responders themselves can skilfully deal with organisational stress to maintain their wellbeing. The study also identifies some of the tools and skills that are used by first responders to overcome and circumvent barriers to enacting a sense of calling. As discussed next, the findings also add new knowledge in the general occupational wellbeing field regarding how people overcome the challenges of enacting a sense of calling.

The benefits of living with a calling for a person's wellbeing are well known. However, research showing how people overcome barriers to enacting callings in their work roles is scant (Cardador & Caza, 2012). Schabram and Maitlis (2017) investigated how animal shelter workers overcame challenges of calling work, and Nielsen and Jørgensen (2016) conducted a similar study with home health caregivers. The scholars concluded that more research was needed in this area. Despite widespread research documenting the difficulty in enacting a calling, little knowledge exists about the individual and contextual factors that enable people to overcome barriers in pursuit of their callings (Schabram & Maitlis, 2017). The lack of knowledge in this area is problematic given that research indicates that people's wellbeing is negatively affected when they cannot enact their calling (Bunderson & Thompson, 2009; Schabram & Maitlis, 2017). No known studies have specifically investigated the factors that mediate the relationship between having a sense of calling and enacting a sense of calling in the emergency services. There are also few studies that have investigated the actions that people take themselves to overcome barriers in pursuit of their callings (Berg et al., 2010; Nielsen & Jørgensen, 2016; Schabram & Maitlis, 2017). These limitations are overcome in the current study as I have illustrated for the first time how first responders deal with job demands to achieve a sense of calling in their work.

In chapter three, I presented evidence from the occupational wellbeing field that indicated wellbeing solutions are offered to people before their wellbeing needs have been identified. I argued that providing de-contextualised wellbeing interventions could lead to unforeseen or iatrogenic consequences. In this research program, I investigated first responders' wellbeing needs before recommending how to protect and promote wellbeing in the emergency services. In doing so, the heart of wellbeing theory was used to identify relevant wellbeing interventions that would cater to the unique wellbeing needs of people working in the emergency services. Few studies in the occupational wellbeing field have conducted a comprehensive investigation of what, why, and how, people experience wellbeing before recommending how to support a specific population's wellbeing needs.

In the postscript of chapter three (section 3.3) I considered evidence that demonstrates the value of understanding epistemology and ontology for wellbeing research. I described my ontology and epistemology in chapter four and provided a reflexive account of why a pragmatist philosophy and mixed methods methodology was ideally suited to researching wellbeing in this study. This approach to wellbeing research is novel as no known models of wellbeing in the current wellbeing literature have been developed using a pragmatist epistemology and ontology (Thorburn, 2017).

Few models of wellbeing are underpinned by research using grounded theory methods (Hefferon et al., 2017). There are few dynamic and contextualised models of wellbeing in the occupational and positive psychology wellbeing literature (Ciarrochi et al., 2016; Karanika-Murray & Biron, 2015). The positive psychology field has been criticised for producing research with an emphasis on a post-positivist epistemology (Hefferon et al., 2017). Critics argue that generating knowledge about what wellbeing is, but not how and why wellbeing is, is unhelpful and insufficient to guide wellbeing interventions (Ciarrochi et al., 2016). Consequently, the prominent models of wellbeing in the literature are static and decontextualised (Ciarrochi et al., 2016). For example, PERMA (Positive emotions, Engagement, Relationships, Meaning, Achievement) focuses on what wellbeing is but not how, when, and why wellbeing is experienced (Seligman, 2012). The Job Demands–Resources model identifies global and specific job demands and resources, but the model is static and does not explain how to develop job resources and reduce job demands in separate occupational groups (Lundh & Rydstedt, 2016). The current study offers a model of wellbeing that is dynamic and contextualised to the emergency services. The *heart of wellbeing* theory explains the why, what, and how of first responder wellbeing. By adopting a grounded theory approach to the study of wellbeing in the emergency services, I offer a picture of first responders' wellbeing as it is lived.

10.2 Directions for future research

In my view, one of the foremost findings of this study is the importance of team collegiality ("working towards the common goal", P9) and "working with good co-workers" (n = 20) to first responder wellbeing. Collegial teams and "good co-workers" enabled first responders to achieve their why (meaning and purpose) and therefore experience wellbeing. A more extensive follow-up study should explore and clarify whether the toolbox tools such as these are just as relevant to other first responders. Future research should investigate whether paramedics, police officers, and firefighters use the same tools to achieve their why, or if specific tools are needed depending on the service. Additionally, future research would benefit from investigating how the toolbox varies amongst different cohorts. For example, does ethnicity, gender, or geography change the content of people's toolbox and therefore how they achieve their why?

In this study, first responders acknowledged the harmful effect that working with conflict had on their wellbeing. First responders rely on each other to complete their work and thus depend on good relations with their co-workers. Future research should evaluate the effectiveness of a prosocial intervention on work teams' ability to reduce conflict and increase collegiality. The

research should measure first responders' and their team's wellbeing and ill-being before and after the intervention. The findings could provide additional evidence that first responders' wellbeing needs to be approached at an individual and team level.

Repeatedly studies demonstrate that organisational factors have a negative impact on first responder wellbeing. Other studies also indicate that context changes trauma outcomes (Wagner, Monson, & Hart, 2016). Despite the role that context plays in people's experience of trauma, Varker et al., (2018) recentlyidentified limited evidence regarding the contextual experiences of trauma and wellbeing in the emergency services. Indeed, the trauma literature is replete with correlational studies identifying the protective and risk factors associated with PTSD, however, fewer studies have investigated first responders experience wellbeing from a holistic perspective (Vogt, Erbes, & Polusny, 2017). Future research would benefit from understanding how workplace context changes how first responders experience stress and trauma. For instance, is a positive workplace context associated with fewer trauma symptoms and diagnoses than a negative workplace context? The research outcomes could support the need to change the structure of emergency service organisations for the purpose of supporting first responder wellbeing.

Evidence considered in this study demonstrates the strong association between achieving a sense of calling and wellbeing. A future study could survey how many first responders identify with feeling called to their work, as opposed to having a job or career work orientation. If the survey demonstrates that a significant proportion of first responders indeed feel called to emergency service work, wellbeing interventions may need to be tailored to meet the needs of a calling-oriented workforce. Future research should investigate what proportion of first responders are aware of their work orientation (their "why") and feel that they are achieving their why on a regular basis. Findings from the current study indicate that first responders are not achieving their why consistently, which is adversely affecting their wellbeing. Future research should also investigate how capable first responders feel of enacting their calling, thereby achieving their why.

Research should further investigate the impact of job, team, and life crafting on first responders' wellbeing. Studies could investigate whether teaching first responders how to job, team, and life craft would be an effective way to help them enact a sense of calling in some aspect of their life. The current findings suggest that first responders may benefit from life crafting when they lack resources to achieve their why at work. However, on the flip side, this research also notes that first responders disengage from the workplace when they feel unable to enact a sense of calling at work. First responders shift from job crafting to life crafting so that they can achieve a why in one aspect of their lives. Future research could investigate which job resources enable first responders to expertly job, team, and life craft (Slemp & Vella-Brodrick, 2014; Wrzesniewski et al., 2013). Further, studies could also examine whether first responders are more likely to job and team craft when they feel called to emergency service work but are more likely to life craft when they are job- or career-oriented towards their work. Investigating crafting in the emergency

services is warranted given evidence of the positive relationship between job crafting, job performance, and individual wellbeing (Petrou, Demerouti, & Peeters, 2012; Slemp et al., 2015; Slemp & Vella-Brodrick, 2014; Tims, Bakker, & Derks, 2013; van Wingerden, Bakker, & Derks, 2017; Wrzesniewski et al., 2013). Job crafting enables workers to meet their needs for autonomy, relatedness, and competence and thereby increase their wellbeing (Slemp & Vella-Brodrick, 2014). Job crafting also allows workers opportunities to enhance the meaning they attain from their work (Slemp & Vella-Brodrick, 2014; Wrzesniewski et al., 2013).

Future research could also investigate how the toolbox changes what types of skills first responders deploy when attempting to achieve their why. For example, in the current study increased financial security, competence and confidence, changed how one first responder negotiated her why with other people. She described situations where she *played the game* more so at the start of her career, but as she gained increased financial security, competence and confidence she was more likely to *assert her why*.

Evidence considered in this study indicates that ill-being, including hopelessness and suicide, is associated with a lack of meaning and purpose in life. Studies reveal that first responders are at increased risk of suicide (Varker et al., 2018). Therefore, there is an urgent need to investigate whether a lack of meaning in the role of first responder contributes to suicide ideation and suicide acts in first responders. The research could examine the link between first responders feeling unable to achieve their why and mental health issues, including suicide. Researchers could interview first responders, family members, allied and health professionals, work colleagues, and coroners about first responder suicide. I acknowledge the ethical difficulties of conducting such research. However, as the outcome of the research could protect first responders' lives, a study such as this is important and worthwhile.

Future research should investigate whether first responders are more likely to experience resilience, PTG, reduced post-traumatic stress, and suicide ideation if they are successfully enacting a sense of calling than if they are not. Research could also investigate whether first responders who feel successful in enacting a sense of calling experience greater resilience, more PTG, and less post-traumatic stress than first responders feeling successful in enacting a job or career work orientation. The outcomes of such research could provide additional evidence to approach first responder wellbeing more broadly, with as much of a focus on promoting their wellbeing as on preventing their ill-being.

Empirical evidence supports the prosocial model and ACT as a way of helping workers and teams to achieve individual and collective values and goals (Evolutionary Institute, 2014; French, Golijani-Moghaddam, & Schröder, 2017; Hayes et al., 2006). However, I have identified no studies that evaluated the effectiveness of these types of interventions to promote first responders' experience of meaning and purpose and thereby protect their overall wellbeing (Vakker et al., 2018). Future studies should investigate whether an ACT intervention provides first responders with the tools to overcome barriers to achieving their why and whether the

prosocial intervention offers a way for teams to increase collegiality and reduce conflict. An ACT component could be introduced into existing wellbeing initiatives and trialled in an emergency service context. Study participants' wellbeing and ill-being could be evaluated before and after the intervention in a longitudinal study.

10.3 Summary of recommendations for policy, practice, and education

The evidence generated in this study has implications for practice and policy, and education. The current section provides an overview of each recommendations.

10.3.1 Policy and practice

In this thesis I have argued that emergency service organisations should include interventions that promote team resilience, camaraderie, and collegiality as much as individual resilience as a way of protecting first responder wellbeing. Therefore, specific recommendations for practice and policy are:

- Include team building activities and opportunities for socialising into wellbeing policy and practices in the emergency services.
- Include a prosocial intervention in wellbeing initiatives and evaluate the interventions' ability to increase collegiality and reduce conflict in work teams.
- Introduce acceptance and commitment therapy training for first responders and evaluate the impact that this has on their ability to achieve their why, and therefore experience higher wellbeing and lower ill-being.

Findings from this research program demonstrate that first responder wellbeing is more than the absence of ill-being, and as such, should be defined and measured accordingly. Therefore, further recommendations include:

- Define wellbeing in the emergency services as:
    - Wellbeing in the emergency services is equipping first responders and their teams with the necessary tools, resources, and skills to confidently and competently overcome and circumvent barriers to achieving personally meaningful and worthwhile goals.
- Monitor and measure the wellbeing of first responders using the Meaning in Life Questionnaire (Steger, Frazier, Oishi, & Kaler, 2006), the Flourishing Scale (Diener et al., 2010), and the Basic Psychological Needs Scale (Deci et al., 2001; Deci & Ryan, 2000).
- Team wellbeing could be measured via collegiality, and ill-being via conflict. There are few psychometrically validated instruments to evaluate collegiality in the workplace (Schmidt, McNulty, Howard-Baptiste, & Harvey, 2017). Although Cipriano and Buller (2012) developed the Collegiality Assessment Matrix, it was designed within an education context. A tool used to measure collegiality would need to be developed for the emergency services. Likewise, few instruments measure conflict in an emergency

service context. Patterson et al. (2012) produced the EMT-TEAMWORK survey; however, it has not been validated within an Australian or New Zealand context. Future studies would need to develop tools to measure collegiality and conflict in Australian and New Zealand emergency service organisations.

Research, including this study, indicates that organisational stress is more detrimental to first responders' wellbeing than operational trauma. Accordingly, emergency service organisations are advised to update policy to include:

- New primary prevention initiatives to reduce organisational stress. A trial is currently being conducted in the Victoria Police, Australia, that includes a primary prevention component in a wellbeing intervention (Lamontagne et al., 2016). The outcomes from this study should be used to inform policy in other emergency service organisations.
- Regular monitoring of team and individual wellbeing using the tools identified above.
- Continue to measure ill-being, such as depression, post-traumatic stress disorder, and suicidal ideation.

The current study also emphasises the importance of key foundational tools to first responders' wellbeing. Therefore, policy recommendations also include:

- Increased opportunities for flexible work hours to promote work–life balance. Work–life balance will enable first responders to nurture other identities and life craft so that they can always achieve meaning and purpose in at least one aspect of their lives.
- Increased opportunities for education and experience, and regular coaching sessions with psychologists to provide the tools to skilfully overcome and circumvent barriers to achieving their why.

10.3.2 Education

Specific education policy recommendations comprise:

- Include acceptance and commitment therapy training in existing resilience workshops for first responders.
- Include a prosocial intervention that educates teams about how to achieve prosocial goals and values, and how to deal with conflicting goals and values.
- Include special education and training for managers to increase awareness about how their actions create collegiality or conflict in work teams.
- Provide education for policymakers about the urgent need to reduce organisational stress.

10.4 Strengths and limitations of the current study

The previous section detailed the new knowledge contributed by this study. However, it is important to consider the limitations in any research program when taking into account study findings. The last section of this chapter first outlines the limitations of this research before presenting some of the strengths of the mixed methods study.

The data in this mixed methods study indicated that meaning and purpose was the most significant factor to be associated with workers' wellbeing. However, in chapter six I reported that the survey question used to measure meaning and purpose in the quantitative study was not explicitly related to the workplace. Participants may have derived meaning and purpose in other facets of their life, such as their children, which affected the results. In the context of the callings literature outlined in chapter eight, it would have been helpful to discern how many people gained meaning and purpose from their work versus their non-work activities, and whether this affected their wellbeing. Further, it would have been useful to discern which occupational groups gained more meaning and purpose from their work than from their non-work activities. The job crafting literature is underpinned by an assumption that people craft their work to gain meaning and purpose via their job roles. However, evidence considered in this thesis suggests that people craft all aspects of their life to achieve meaning and purpose in whatever way they can. In this thesis, I termed this type of crafting *life crafting*. The quantitative study is limited in providing an in-depth analysis of the links between occupational context, job crafting, meaning and purpose, and wellbeing. The limitation is discussed in the context of future research below.

Future research would benefit from investigating the extent to which people need to derive meaning and purpose in their jobs to flourish at work, or whether achieving meaning and purpose in non-work roles could also help people to flourish in the workplace. For example, if workers have a job orientation, then their employer may benefit from providing additional opportunities for work–life balance so that the workers can flourish at work and home. However, if workers have a calling orientation they may value additional workplace resources for job crafting so that they can enact their sense of calling via their job role. However, workers with a career orientation may value coaching and leadership development to progress their career so that they too can flourish in their job role. Future studies would benefit from investigating workers' wellbeing needs in the context of their work orientation and how to address their wellbeing needs in a targeted way. Research methods that allow for a more dynamic understanding of calling enactment would be useful in future studies.

It is important to note that the grounded theory study, as outlined in chapter seven, investigated the wellbeing of first responders in general, rather than in the individual police, fire, and ambulance services. The study aimed to investigate commonalities among each service regarding how first responders experience wellbeing. However, each service contains different job demands; therefore, future research should examine the influence on wellbeing to gain a broader understanding of this phenomenon in each service area. The grounded theory study provided a way to understand wellbeing conceptually and to construct a theory that was relevant to all first responders that can be tested and applied to future studies. For instance, research could investigate a team-based intervention in an emergency service setting to evaluate whether, how, and why the intervention changes first responder wellbeing.

A strength of this study relates to the mixed methods methodology that was used to research workers' experience of wellbeing. To date, few studies have investigated wellbeing in the positive psychology literature using a mixed methods methodology or a qualitative methodology (Heffernan et al., 2017). The current study presents a novel contribution to the field by demonstrating how researchers can integrate studies from two different research paradigms to gain a more holistic perspective of wellbeing. In this study, I gained insights from a large quantitative survey, which were then explained using grounded theory methods. No known studies have used grounded theory methods to explain the outcomes of an online survey to guide targeted wellbeing interventions for first responders.

My approach to rigour is another strength of this research. Scholars acknowledge that studies in the mixed methods literature are haphazard in addressing rigour (Brown et al., 2015). Tashakkori and Teddlie (2010) described the literature on mixed methods quality as "chaotic" (p. 813). Using reflexivity as a tool to ensure rigour in mixed methods studies is not commonplace (Walker et al., 2013). In this study, I used Wilkinson's (1988) criteria for reflexivity as a tool to promote rigour in this mixed methods methodology. Hence, tools were used not only to ensure rigour in the mixed methods studies, but also to ensure rigour in the methodology underpinning this thesis.

The final strength of the study relates to the original knowledge generated. To discuss this strength, I first draw upon pragmatist John Dewey's (1906, 1938) concept of knowledge before explaining how the knowledge generated in this study is useful in the occupational wellbeing field. For Dewey (1906, 1938), the epistemic criterion for knowledge acquisition is practicality. In other words, new information does not become knowledge unless it solves problems, creates stability in uncertain situations, and makes a positive contribution to the human condition. Dewey (1906, 1930, 1938) used the principle of usefulness to evaluate knowledge. Dewey (1906, 1930, 1938) argued that it is not the possibility of knowledge, but its point, and the uses we make of it, that should be the basis of research. In other words, knowledge can only be considered knowledge when it guides action in a way that resolves a problem. In the current study, the knowledge generated can be used to inform future interventional research with first responders to identify cohort relevant strategies to enhance wellbeing. Developing a conceptual understanding of first responder wellbeing to guide wellbeing interventions addresses the limitations in wellbeing research.

Occupational wellbeing researchers argue that a lack of understanding regarding the process and contextual factors that underpin organisational interventions has restricted practical guidance on intervention design, implementation and evaluation (Karanika-Murray & Biron, 2015). Randall, Griffiths, and Cox (2005) state that occupational wellbeing research should focus more on theory development to guide the effective implementation and evaluation of wellbeing interventions. In this study, the *heart of wellbeing* theory has been developed to provide a coherent conceptual understanding of first responder wellbeing. The theory includes the processes involved in first responder wellbeing, and the contextual issues that promote and

degrade first responder wellbeing. The *heart of wellbeing* theory should be used to guide intervention design, implementation, and evaluation in the emergency services. Basing wellbeing interventions on the *heart of wellbeing* theory may help to reduce the high rate of implementation failure of wellbeing interventions reported in the literature (Cooper, 2015; Karanika-Murray & Biron, 2015).

10.5 Chapter summary

The new and original knowledge generated in this thesis demonstrates how to protect first responders against the organisational stress inherent in emergency service work. Governments and emergency service organisations in New Zealand and Australia are urged to consider the findings of this thesis to improve wellbeing interventions in the emergency services. The outcomes of this research can help guide emergency service organisational wellbeing policies and practices as the findings relate directly to first responders.

By revisiting the research aim, this concluding chapter has recapped why I chose this research program and demonstrated how I achieved the aim. Drawing upon the findings from both the quantitative and qualitative study has demonstrated the contributions of this thesis to new and original knowledge. I have acknowledged the limitations of the study. The outcomes of this thesis point to the critical importance of first responders having access to foundational tools at the individual and team level. Emergency service organisations are recommended to prioritise team resilience in organisational wellbeing policies to balance the traditional focus on individual resilience to operational trauma. The knowledge developed in this thesis has potential to prevent first responders from developing depression, suicide, and post-traumatic stress. The findings have potential to help emergency service organisations protect the wellbeing of first responders and their families.

References

Abendroth, M., & Flannery, J. (2006). Predicting the risk of compassion fatigue: A study of hospice nurses. *Journal of Hospice and Palliative Nursing*, *8*(6), 346–356. https://doi.org/10.1097/00129191-200611000-00007

Aked, J., Marks, N., Cordon, C., & Thompson, S. (2009). *Five ways to wellbeing: A report presented to the Foresight Project on communicating the evidence base for improving people's well-being.* London, UK: Nef.

Aldrich, R. M. (2011). A review and critique of well-being in occupational therapy and occupational science. *Scandinavian Journal of Occupational Therapy*, *18*(2), 93–100. https://doi.org/10.3109/11038121003615327

Alexander, D. A., & Klein, S. (2001). Ambulance personnel and critical incidents: Impact of accident and emergency work on mental health and emotional well-being. *The British Journal of Psychiatry: The Journal of Mental Science*, *178*(1), 76–81. https://doi.org/10.1192/bjp.178.1.76

Alrutz, S., Buetow, S., Huggard, P., & Cameron, L. (2015, October). *What happens at work goes home.* Poster presented at the Australasian Trauma Society conference, Gold Coast, Australia.

Anderson, E. (2014). Dewey's moral philosophy. In E. N. Zalta (Ed.), *The Stanford encyclopedia of philosophy* (Spring 2014). Stanford University Metaphysics Research Lab. Retrieved from https://plato.stanford.edu/archives/spr2014/entries/dewey-moral/

Antonovsky, A. (1979). *Health, stress and coping*. San Francisco, CA: Jossey-Bass.

Arcidiacono, C., Eiroa-Orosa, F. J., & Di Martino, S. (2017). Community psychology's contributions to happiness and well-being: Including the role of context, social justice, and values in our understanding of the good life. In N. J. L. Brown, T. Lomas, & F. J. Eiroa-Orosa (Eds.), *The Routledge international handbook of critical positive psychology* (pp. 99–116). London, UK: Routledge.

Armstrong, D., Shakespeare-Finch, J., & Shochet, I. (2014). Predicting post-traumatic growth and post-traumatic stress in firefighters. *Australian Journal of Psychology*, *66*(1), 38–46. https://doi.org/10.1111/ajpy.12032

Armstrong, D., Shakespeare-Finch, J., & Shochet, I. (2016). Organizational belongingness mediates the relationship between sources of stress and posttrauma outcomes in firefighters. *Psychological Trauma: Theory, Research, Practice and Policy*, *8*(3), 343–347. https://doi.org/10.1037/tra0000083

Aune, B. (1970). *Rationalism, empiricism, and pragmatism: An introduction*. New York, NY: Random House.

Avey, J. B., Luthans, F., Smith, R. M., & Palmer, N. F. (2010). Impact of positive psychological capital on employee well-being over time. *Journal of Occupational Health Psychology*, *15*(1), 17–28. https://doi.org/10.1037/a0016998

Aviad-Wilchek, Y., & Ne'eman-Haviv, V. (2017). The relation between a sense of meaning in life and suicide potential among disadvantaged adolescent girls. *International Journal of Offender Therapy and Comparative Criminology, 62*(6), 1474–1487. https://doi.org/10.1177/0306624X16684566

Bakker, A. B., & Demerouti, E. (2007). The job demands-resources model: State of the art. *Journal of Managerial Psychology*, *22*(3), 309–328. https://doi.org/10.1108/02683940710733115

Balmer, G. M., Pooley, J. A., & Cohen, L. (2014). Psychological resilience of Western Australian police officers: Relationship between resilience, coping style, psychological functioning and demographics. *Police Practice & Research*, *15*(4), 270–282. https://doi.org/10.1080/15614263.2013.845938

Bandura, A. (1982). Self-efficacy mechanism in human agency. *The American Psychologist*, *37*(2), 122–147. https://doi.org/10.1037/0003-066X.37.2.122

Bange, R. (2018). Mental health and paramedics. *Submission for Senate Inquiry into the high rates of mental health conditions experienced by first responders, emergency service workers and volunteers.* Retrieved from: https://www.aph.gov.au/Parliamentary_Business/Committees/Senate/Education_and_Employment/Mentalhealth/Submissions

Bass, B. M., & Riggio, R. E. (2006). *Transformational leadership* (2nd ed.). New York, NY: Routledge.

Baumeister, R. F., & Alghamdi, N. (2015). Resource-based interventions in the workplace: Integration, commentary, and recommendations. *Journal of Occupational and Organizational Psychology*, *88*(3), 623–629. https://doi.org/10.1111/joop.12130

Baumeister, R. F., & Leary, M. R. (1997). Writing narrative literature reviews. *Review of General Psychology*, *1*(3), 311–320. https://doi.org/10.1037/1089-2680.1.3.311

Beck, A. T., Steer, R. A., Kovacs, M., & Garrison, B. (1985). Hopelessness and eventual suicide: A 10-year prospective study of patients hospitalized with suicidal ideation. *American Journal of Psychiatry, 142*(5), 559–563. https://doi.org/10.1176/ajp.142.5.559

Becker, D., & Marecek, J. (2008). Positive psychology: History in the remaking? *Theory & Psychology*, *18*(5), 591–604. https://doi.org/10.1177/0959354308093397

Bellah, R., Madsen, R., Sullivan, W., Swidler, A., & Tipton, S. (1985). *Habits of the heart: Individualism and commitment in American life.* Berkeley, CA: University of California Press.

Benedek, D. M., Fullerton, C., & Ursano, R. J. (2007). First responders: Mental health consequences of natural and human-made disasters for public health and public safety workers. *Annual Review of Public Health*, *28*, 55–68. https://doi.org/10.1146/annurev.publhealth.28.021406.144037

Berg, J. M., Grant, A. M., & Johnson, V. (2010). When callings are calling: Crafting work and leisure in pursuit of unanswered occupational callings. *Organization Science*, *21*(5), 973–994. https://doi.org/10.1287/orsc.1090.0497

Berger, R. (2015). Now I see it, now I don't: Researcher's position and reflexivity in qualitative research. *Qualitative Research*, *15*(2), 219–234. https://doi.org/10.1177/1468794112468475

Berger, W., Coutinho, E., Figueira, I., Marques-Portella, C., Luz, M., Neylan, T., … Mendlowicz, M. (2012). Rescuers at risk: A systematic review and meta-regression analysis of the worldwide current prevalence and correlates of PTSD in rescue workers. *Social Psychiatry and Psychiatric Epidemiology*, *47*(6), 1001–1011. https://doi.org/10.1007/s00127-011-0408-2

Berkelaar, B. L., & Buzzanell, P. M. (2014). Bait and switch or double-edged sword? The (sometimes) failed promises of calling. *Human Relations; Studies towards the Integration of the Social Sciences*, *68*(1), 157–178. https://doi.org/10.1177/0018726714526265

beyondblue. (2016a). *Good practice framework for mental health and wellbeing in first responder organisations* [Booklet]. Retrieved from https://www.headsup.org.au/docs/default-source/resources/315877_0316_bl1675_acc_std.pdf?sfvrsn=6

beyondblue. (2016b). *National mental health and wellbeing study of police and emergency services*. Melbourne, Australia: Author. Retrieved from https://www.beyondblue.org.au/about-us/about-our-work/workplace-mental-health/pes-program/national-mental-health-and-wellbeing-study-of-police-and-emergency-services

beyondblue, & PwC. (2014). *Creating a mentally healthy workplace: Return on investment analysis* [Industry report]. Retrieved from https://www.headsup.org.au/docs/default-source/resources/beyondblue_workplaceroi_finalreport_may-2014.pdf

Bidee, J., Vantilborgh, T., Pepermans, R., Willems, J., Jegers, M., & Hofmans, J. (2017). Daily motivation of volunteers in healthcare organizations: Relating team inclusion and intrinsic motivation using self-determination theory. *European Journal of Work and Organizational Psychology*, *26*(3), 325–336. https://doi.org/10.1080/1359432X.2016.1277206

Biesta, G. J. J. & Burbules, N. C.. (2004). *Pragmatism and educational research*. Lanham, MD: Rowman & Littlefield.

Biesta, G. (2007). Why "what works" won't work: Evidence-based practice and the democratic

deficit in educational research. *Educational Theory, 57*(1), 1–22. https://doi.org/10.1111/j.1741-5446.2006.00241.x

Biggio, G., & Cortese, C. G. (2013). Well-being in the workplace through interaction between individual characteristics and organizational context. *International Journal of Qualitative Studies on Health and Well-Being*, *8.* https://doi.org/10.3402/qhw.v8i0.19823

Biggs, B. A., & Naimi, L. L. (2012). Ethics in traditional policing: Reflecting on a paramilitary paradigm. *Franklin Business & Law Journal*, *2012*(4), 19–39.

Biron, C., Karanika-Murray, M., & Cooper, C. L. (2012). Organizational stress and well-being interventions: An overview. In C. Biron, M. Karanika-Murray, & C. L. Cooper (Eds.), *Improving organizational interventions for stress and well-being: Addressing process and context* (pp. 1–17). Hove, UK: Routledge.

Birks, M., & Mills, J. (2015). *Grounded theory: A practical guide* (2nd ed.). Los Angeles, CA: Sage.

Birks, M., Mills, J., Francis, K., & Chapman, Y. (2009). A thousand words paint a picture: The use of storyline in grounded theory research. *Journal of Research in Nursing*, *14*(5), 405-417. https://doi.org:10.1177/1744987109104675

Black Dog Institute. (2016). *Mental health and wellbeing strategy for first responder organisations in NSW* [Government report]. Mental Health Commission of NSW. Retrieved from http://nswmentalhealthcommission.com.au/sites/default/files/publication-documents/First%20Responders_FINAL_WEB%20%281%29.pdf.

Blanchflower, D. G., Oswald, A. J., & Stewart-Brown, S. (2013). Is psychological well-being linked to the consumption of fruit and vegetables? *Social Indicators Research*, *114*(3), 785–801. https://doi.org/10.1007/s11205-012-0173-y

Blau, G., Bentley, M. A., & Eggerichs-Purcell, J. (2012). Testing the impact of emotional labor on work exhaustion for three distinct emergency medical service (EMS) samples. *Career Development International*, *17*(7), 626–645.

Boehm, J. K., & Kubzansky, L. D. (2012). The heart's content: the association between positive psychological well-being and cardiovascular health. *Psychological Bulletin*, *138*(4), 655–691. https://doi.org/10.1037/a0027448

Bolam, B., Gleeson, K., & Murphy, S. (2003). "Lay person" or "health expert"? Exploring theoretical and practical aspects of reflexivity in qualitative health research. *Forum: Qualitative Social Research, 4(2).* https://doi.org/10.17169/fqs-4.2.699

Bolino, M. C., & Grant, A. M. (2016). The bright side of being prosocial at work, and the dark side, too: A review and agenda for research on other-oriented motives, behavior, and impact in organizations. *The Academy of Management Annals*, *10*(1), 599–670. https://doi.org/10.1080/19416520.2016.1153260

Bowlby, J. (1979). The Bowlby-Ainsworth attachment theory. *The Behavioral and Brain Sciences*, *2*(04), 637–638.

Brewer, M. B. (1991). The social self: On being the same and different at the same time. *Personality & Social Psychology Bulletin*, *17*(5), 475–482. https://doi.org/10.1177/0146167291175001

Brewer, M. B. (2012). Optimal distinctiveness theory: Its history and development. In Van Lange, A.M, Kruglanski, A.W, & Higgins, E.T (Eds.), *Handbook of theories of social psychology: Volume 2* (pp. 81–98). Thousand Oaks, CA: Sage.

Brewin, C. R., Andrews, B., & Valentine, J. D. (2000). Meta-analysis of risk factors for post-traumatic stress disorder in trauma-exposed adults. *Journal of Consulting and Clinical Psychology*, *68*(5), 748–766. https://doi.org/10.1037/0022-006X.68.5.748

Briner, R. B., Denyer, D., & Rousseau, D. M. (2009). Evidence-based management: Concept cleanup time? *The Academy of Management Perspectives*, *23*(4), 19–32. https://doi.org/10.5465/AMP.2009.45590138

Briner, R. B., & Walshe, N. D. (2015). An evidence-based approach to improving the quality of resource-oriented well-being interventions at work. *Journal of Occupational and Organizational Psychology*, *88*(3), 563–586. https://doi.org/10.1111/joop.12133

Brinkborg, H., Michanek, J., Hesser, H., & Berglund, G. (2011). Acceptance and commitment therapy for the treatment of stress among social workers: A randomized controlled trial. *Behaviour Research and Therapy*, *49*(6-7), 389–398. https://doi.org/10.1016/j.brat.2011.03.009

Brough, P. (2004). Comparing the influence of traumatic and organizational stressors on the psychological health of police, fire, and ambulance officers. *International Journal of Stress Management*, *11*(3), 227–244. https://doi.org/10.1037/1072-5245.11.3.227

Brough, P. (2005). A comparative investigation of the predictors of work-related psychological well-being within police, fire and ambulance workers. *New Zealand Journal of Psychology*, *34*(2), 127–134.

Brown, K. M., Elliott, S. J., Leatherdale, S. T., & Robertson-Wilson, J. (2015). Searching for rigour in the reporting of mixed methods population health research: A methodological review. *Health Education Research*, *30*(6), 811–839. https://doi.org/10.1093/her/cyv046

Brown, G. W., & Harris, T. (2012). *Social origins of depression: A study of psychiatric disorder in women*. London, UK: Routledge.

Brown, N. J. L., Lomas, T., & Eiroa-Orosa, F. J. (2018). *The Routledge international handbook of critical positive psychology*. New York, NY: Routledge.

Brown, N. J. L., MacDonald, D. A., Samanta, M. P., Friedman, H. L., & Coyne, J. C. (2014). A

critical reanalysis of Fredrickson et al's study of genomics and well-being. *Proceedings of the National Academy of Sciences*, *111*(35), 12705–12709. https://doi.org/10.1073/pnas.1407057111

Brown, J., Mulhern, G., & Joseph, S. (2002). Incident-related stressors, locus of control, coping, and psychological distress among firefighters in Northern Ireland. *Journal of Traumatic Stress*, *15*(2), 161–168. https://doi.org/10.1023/A:1014816309959

Brown, N. J. L., Sokal, A. D., & Friedman, H. L. (2014). Positive psychology and romantic scientism. *The American Psychologist*, *69*(6), 636–637. https://doi.org/10.1037/a0037390

Brunetto, Y., Xerri, M., Shacklock, K., Farr-Wharton, B., & Farr-Wharton, R. (2016). Management, bullying and the work outcomes of Australian paramilitary. *The Australian & New Zealand Journal of Criminology*, *50*(3), 341–359. https://doi.org/10.1177/0004865816647429

Brunsden, V., Hill, R., & Maguire, K. (2012). The impact of process issues on stress interventions in the emergency services. In C. Biron, M. Karanika-Murray, & C. Cooper, (Eds.), *Improving organizational interventions for stress and well-being: addressing process and context* (pp. 238–257). London, UK: Routledge.

Bryant, A. (2009). Grounded theory and pragmatism: The curious case of Anselm Strauss. In *Forum: Qualitative Social Research*, *10* (3). http://dx.doi.org/10.17169/fqs-10.3.1358

Bryant, R. A., Felmingham, K., Kemp, A., Das, P., Hughes, G., Peduto, A., & Williams, L. (2008). Amygdala and ventral anterior cingulate activation predicts treatment response to cognitive behaviour therapy for post-traumatic stress disorder. *Psychological Medicine*, *38*(4), 555–561. https://doi.org/10.1017/S0033291707002231

Bryman, A., Becker, S., & Sempik, J. (2008). Quality criteria for quantitative, qualitative and mixed methods research: A view from social policy. *International Journal of Social Research Methodology*, *11*(4), 261–276. https://doi.org/10.1080/13645570701401644

Bunderson, J. S., & Thompson, J. A. (2009). The call of the wild: Zookeepers, callings, and the double-edged sword of deeply meaningful work. *Administrative Science Quarterly*, *54*(1), 32–57. https://doi.org/10.2189/asqu.2009.54.1.32

Burke, R. J. (2016). *Stress in policing: Sources, consequences and interventions*. New York, NY: Routledge.

Calhoun, L. G., & Tedeschi, R. G. (2014). The foundations of posttraumatic growth: An expanded framework. In L. G. Calhoun & R. G. Tedeschi (Eds.), *Handbook of posttraumatic growth: Research and Practice* (pp. 1-23). New York, NY: Psychology Press.

Cameron, K., Dutton, J. & Quinn, R. (2003). The foundations of posttraumatic growth: An expanded framework. In K. Cameron, J. Dutton, & R. Quinn (Eds.), *Positive organizational scholarship: Foundations of a new discipline* (pp. 3–13). San Francisco, CA: Berrett-

Koehler.

Campion, J., & Nurse, J. (2007). A dynamic model for wellbeing. *Australasian Psychiatry: Bulletin of Royal Australian and New Zealand College of Psychiatrists*, *15*(Supp 1), S24–S28. https://doi.org/10.1080/10398560701701106

Cardador, M. T., & Caza, B. B. (2012). Relational and Identity Perspectives on Healthy Versus Unhealthy Pursuit of Callings. *Journal of Career Assessment*, *20*(3), 338–353. https://doi.org/10.1177/1069072711436162

Casio, W. F. (2003). Responsible restructuring: Seeing employees as assets, not costs. *Ivey Business Journal*, 1–5.

Chae, M. H., & Boyle, D. J. (2013). Police suicide: prevalence, risk, and protective factors. *Policing: An International Journal of Police Strategies & Management*, *36*(1), 91–118. https://doi.org/10.1108/13639511311302498

Chamberlain-Salaun, J., Mills, J., & Usher, K. (2013). Linking Symbolic Interactionism and Grounded Theory Methods in a Research Design: From Corbin and Strauss' Assumptions to Action. *SAGE Open*. https://doi.org/10.1177/2158244013505757

Charmaz, K. (2006). *Constructing grounded theory: A practical guide through qualitative research.* London, UK: Sage.

Charmaz, K. (2014). *Constructing grounded theory*. Thousand Oaks, CA: Sage.

Cheek, J., Lipschitz, D. L., Abrams, E. M., Vago, D. R., & Nakamura, Y. (2015). Dynamic reflexivity in action: An armchair walkthrough of a qualitatively driven mixed-method and multiple methods study of mindfulness training in schoolchildren. *Qualitative Health Research, 25*(6), 751–762. https://doi.org/10.1177/1049732315582022

Cheng, H. G., & Phillips, M. R. (2014). Secondary analysis of existing data: opportunities and implementation. *Shanghai Archives of Psychiatry*, *26*(6), 371–375. https://doi.org/10.11919/j.issn.1002-0829.214171

Chilisa, B., & Kawulich, B. B. (2012). Selecting a research approach: Paradigm, methodology and methods. In C. Wagner, B. B. Kawulich, & M. Garner (Eds.), *Doing social research: A global context* (pp. 1–21). Maidenhead, UK: McGraw-Hill.

Christopher, J. C. (1999). Situating psychological well-being: Exploring the cultural roots of its theory and research. *Journal of Counseling & Development*, *77*(2), 141–152. https://doi.org/10.1002/j.1556-6676.1999.tb02434.x

Christopher, J. C., & Hickinbottom, S. (2008). Positive psychology, ethnocentrism, and the disguised ideology of individualism. *Theory & Psychology*, *18*(5), 563–589. https://doi.org/10.1177/0959354308093396

Ciarrochi, J., Atkins, P. W. B., Hayes, L. L., Sahdra, B. K., & Parker, P. (2016). Contextual

positive psychology: Policy recommendations for implementing positive psychology into schools. *Frontiers in Psychology*, *7*, 1561. https://doi.org/10.3389/fpsyg.2016.0156

Clohessy, S., & Ehlers, A. (1999). PTSD symptoms, response to intrusive memories and coping in ambulance service workers. *The British Journal of Clinical Psychology*, *38*(3), 251–265. https://doi.org/10.1348/014466599162836

Cloninger, C. R., Salloum, I. M., & Mezzich, J. E. (2012). The dynamic origins of positive health and wellbeing. *International Journal of Person Centered Medicine*, *2*(2), 179–187. https://doi.org/10.5750/ijpcm.v2i2.213

Cloninger, C. R., Zohar, A. H., & Cloninger, K. M. (2010). Promotion of well-being in person-centered mental health care. *Focus*, *8*(2), 165–179. https://doi.org/10.1176/foc.8.2.foc165

Cobanoglu, C., Moreo, P. J., & Warde, B. (2001). A comparison of mail, fax and web-based survey methods. *International Journal of Market Research*, *43*(4), 441–452.

Cohen, D., & Crabtree, B. (2006) Qualitative research guidelines project. *Robert Wood Johnson Foundation.* Retrieved from http://www.qualres.org/index.html

Cohen, S., Doyle, W. J., Turner, R. B., Alper, C. M., & Skoner, D. P. (2003). Emotional style and susceptibility to the common cold. *Psychosomatic Medicine*, *65*(4), 652–657.

Cohn, M. A., Fredrickson, B. L., Brown, S. L., Mikels, J. A., & Conway, A. M. (2009). Happiness unpacked: positive emotions increase life satisfaction by building resilience. *Emotion*, *9*(3), 361–368. https://doi.org/10.1037%2Fa0015952

Collins, P. A., & Gibbs, A. C. C. (2003). Stress in police officers: a study of the origins, prevalence and severity of stress-related symptoms within a county police force. *Occupational Medicine*, *53*(4), 256–264. https://doi.org/10.1093/occmed/kqg061

Conway, N., Clinton, M., & Sturges, J. (2015). Using self-determination theory to understand the relationship between calling enactment and daily well-being. *Journal of Organizational Behavior, 36*(8), 1114–1131. https://doi.org/10.1002/job.2014

Cooper, C. L. (2015). Stress management interventions: Reflections. In C. Biron & M. Karanika-Murray (Eds.), *Derailed organizational interventions for stress and well-being: Confessions of failure and solutions for success* (pp. 271–273). Dordrecht, Netherlands: Springer.

Cooperrider, D. (2014). Afterword. In C. Laszlo, J. Brown, L. Robson, R. Saillant, & D. Sherman (Eds.), *Flourishing enterprise: The new spirit of business* (pp. 159-178). Palo Alto, CA: Stanford Business Books.

Corbin J., Strauss A. (2008). *Basics of qualitative research: Techniques and procedures for developing grounded theory*. Los Angeles, CA: Sage.

Corrigan, P. W., Diwan, S., Campion, J., & Rashid, F. (2002). Transformational leadership and

the mental health team. *Administration and Policy in Mental Health*, *30*(2), 97–108.

Corti, L., Van den Eynden, V., Bishop, L., & Woollard, M. (2014). *Managing and sharing research data: A guide to good practice*. London, UK: Sage.

Cotton, P., & Hart, P. (2003). Occupational wellbeing and performance: A review of organisational health research. *Australian Psychologist*, *38*(2), 118–127. https://doi.org/10.1080/00050060310001707117

Cotton, P., Hogan, N., Bull, P., & Lynch, M. (2016). *Victoria police mental health review* [Government report]. Retrieved from https://www.police.vic.gov.au/retrievemedia.asp?Media_ID=117546

Coyne, J. C., & Tennen, H. (2010). Positive psychology in cancer care: bad science, exaggerated claims, and unproven medicine. *Annals of Behavioral Medicine, 39*(1), 16–26. https://doi.org/10.1007/s12160-009-9154-z

Crain, T. L., & Hammer, L. B. (2013). Work–family enrichment: A systematic review of antecedents, outcomes, and mechanisms. In A. Bakker (Ed.), *Advances in positive organizational psychology*, (pp. 303-328). Bingley, UK: Emerald Group.

Crawford, E. R., Lepine, J. A., & Rich, B. L. (2010). Linking job demands and resources to employee engagement and burnout: a theoretical extension and meta-analytic test. *The Journal of Applied Psychology*, *95*(5), 834–848. https://doi.org/10.1037/a0019364

Creswell, J. W. (2007). *Qualitative inquiry and research design: Choosing among five approaches*. Thousand Oaks, CA: Sage.

Creswell, J. W. (2014). *Research design: Qualitative, quantitative, and mixed methods approaches* (4th ed.). Thousand Oaks, CA: Sage

Creswell, J. W., & Plano Clark, V. L. (2011). *Designing and conducting mixed methods research* (2nd ed.). Thousand Oaks, CA: Sage.

Crisp, B. R. (2011). Evidence-based social work: A critical stance. *Australian Social Work, 64*(3), 403–404. https://doi.org/10.1080/0312407X.2011.605342

Crotty, M., (1998). *Foundations of social research: Meaning and perspective in the research process.* Sydney, Australia: Allen and Unwin.

Culbertson, S. S., Fullagar, C. J., and Mills, M. J. (2010). Feeling good and doing great: the relationship between psychological capital and well-being. *Journal of Occupational Health Psychology*, *15*(4), 421–433. https://doi.org/10.1037/a0020720

Dalsgaard, P. (2014). Pragmatism and design thinking. *International Journal of Design*, *8*(1), 143–155.

Davies, W. (2015). *The happiness industry: How the government and big business sold us well-*

being. London, UK: Verso.

Deci, E. L., & Ryan, R. M. (2008). Self-determination theory: A macrotheory of human motivation, development, and health. *Canadian psychology/Psychologie Canadienne*, *49*(3), 182–185. https://doi.org/10.1037/a0012801

Deci, E. L., Ryan, R. M., Gagné, M., Leone, D. R., Usunov, J., & Kornazheva, B. P. (2001). Need satisfaction, motivation, and well-being in the work organizations of a former eastern bloc country: A cross-cultural study of self-determination. *Personality and Social Psychology Bulletin*, *27*(8), 930–942. https://doi.org/10.1177/0146167201278002

Deci, E. L., & Ryan, R. M. (2014). Autonomy and need satisfaction in close relationships: relationships motivation theory. In N. Weinstein (Ed.), *Human Motivation and Interpersonal Relationships: Theory, Research, and Applications* (pp. 53–73). Dordrecht, Netherlands: Springer.

Dello Russo, S., & Stoykova, P. (2015). Psychological capital intervention (PCI): A replication and extension. *Human Resource Development Quarterly*, *26*(3), 329–347. https://doi.org/10.1002/hrdq.21212

De Neve, J., Diener, E., Tay, L., & Xuereb, C. (2013). The objective benefits of subjective well-being. In J. Helliwell, R. Layard, & J. Sachs, (Eds.) *World Happiness Report 2013*. New York, NY: UN Sustainable Development Solutions Network.

Denzin, N. K., & Lincoln, Y. S. (2017). Introduction: The discipline and practice of qualitative research. In N. K. Denzin & Y. S. Lincoln (Eds.), *The SAGE handbook of qualitative research*. Thousand Oaks, CA: Sage.

Devilly, G. J., Gist, R., & Cotton, P. (2006). Ready! Fire! Aim! The status of psychological debriefing and therapeutic interventions: In the workplace and after disasters. *Review of General Psychology*, *10*(4), 318–345. https://doi.org/10.1037/1089-2680.10.4.318

Dewey, J. (1906). The experimental theory of knowledge. *Mind; a Quarterly Review of Psychology and Philosophy*, *15*(59), 293–307. https://doi.org/10.1093/mind/XV.59.293

Dewey, J. (1920). Reconstruction in philosophy. In J. A. Boydston (Ed.), *The collected works of John Dewey: The middle works,1899–1924, Vol. 12* (pp. 77–202). Carbondale, IL: Southern Illinois Press.

Dewey, J. (1922). *Human nature and conduct: An introduction to social psychology.* New York, NY: Henry Holt and Company.

Dewey, J. (1929). *Experience and nature*. London, UK: George Allen & Unwin.

Dewey, J. (1930). The quest for certainty: A study of the relation of knowledge and action. London: UK: Gifford.

Dewey, J. (1938). *Logic: The theory of inquiry.* New York, NY: Henry Holt and Company.

Dewey, J. (1948). *Reconstruction in philosophy.* Boston, MA: Beacon Press.

Dickson-Swift, V., Fox, C., Marshall, K., Welch, N., & Willis, J. (2014). What really improves employee health and wellbeing: Findings from regional Australian workplaces. *International Journal of Workplace Health Management*, *7*(3), 138–155. https://doi.org/10.1108/IJWHM-10-2012-0026

Diener, E., Oishi, S., & Lucas, R. E. (2003). Personality, culture, and subjective well-being: Emotional and cognitive evaluations of life. *Annual Review of Psychology, 54,* (403-425). https://doi.org/10.1146/annurev.psych.54.101601.145056

Diener, E., & Suh, E. M. (2000). Measuring subjective well-being to compare the quality of life of cultures. In E. Diener & E. M. Suh (Eds.), *Culture and Subjective Well-being* (pp. 3–12). Massachusetts, MA: MIT Press.

Diener, E., Wirtz, D., Tov, W., Kim-Prieto, C., Choi, D.-W., Oishi, S., & Biswas-Diener, R. (2010). New well-being measures: Short scales to assess flourishing and positive and negative feelings. *Social Indicators Research*, *97*(2), 143–156.

Dik, B. J., & Duffy, R. D. (2009). Calling and vocation at work: Definitions and prospects for research and practice. *The Counseling Psychologist*, *37*(3), 424–450. https://doi.org/10.1177/0011000008316430

Dik, B. J., & Duffy, R. D. (2012). *Make your job a calling: How the psychology of vocation can change your life at work*. West Conshohocken, PA: Templeton Foundation Press.

Dik, B. J., Eldridge, B. M., & Steger, M. F. (2012). Development and validation of the calling and vocation questionnaire (CVQ) and brief calling scale (BCS). *Journal of Career Assessment, 20*(3), 242–263. https://doi.org/10.1177/1069072711434410

Disabato, D. J., Goodman, F. R., Kashdan, T. B., Short, J. L., & Jarden, A. (2016). Different types of well-being? A cross-cultural examination of hedonic and eudaimonic well-being. *Psychological Assessment*, *28*(5), 471–482. https://doi.org/10.1037/pas0000209

Dobrow, S. R. (2013). Dynamics of calling: A longitudinal study of musicians. *Journal of Organizational Behavior*, *34*(4), 431–452. https://doi.org/10.1002/job.1808

Dobrow, S. R. & Tosti-Kharas, J. (2011). Calling: The development of a scale measure. *Personnel Psychology, 64*(4), 1001–1049. https://doi.org/10.1111/j.1744-6570.2011.01234.x

Douglass, R. P., Duffy, R. D., & Autin, K. L. (2015). Living a calling, nationality, and life satisfaction: A moderated, multiple mediator model. *Journal of Career Assessment*, *24*(2), 253–269. https://doi.org/10.1177/1069072715580324

Drever, E. (1995). *Using semi-structured interviews in small-scale research: A teacher's guide.* Glasgow, UK: Scottish Council for Research in Education.

Dropkin, J., Moline, J., Power, P. M., & Kim, H. (2015). A qualitative study of health problems, risk factors, and prevention among emergency medical service workers. *Work*, *52*(4), 935–951. https://doi.org/10.3233/WOR-152139

Duarte, C. S., Hoven, C. W., Wu, P., Bin, F., Cotel, S., Mandell, D. J., … Markenson, D. (2006). post-traumatic stress in children with first responders in their families. *Journal of Traumatic Stress*, *19*(2), 301–306. https://doi.org/10.1002/jts.20120

Duckworth, A. L., Steen, T. A., & Seligman, M. E. P. (2005). Positive psychology in clinical practice. *Annual Review of Clinical Psychology*, *1*, 629–651. https://doi.org/10.1146/annurev.clinpsy.1.102803.144154

Duffy, R. D., Allan, B. A., Autin, K. L., & Bott, E. M. (2013). Calling and life satisfaction: it's not about having it, it's about living it. *Journal of Counseling Psychology*, *60*(1), 42–52. https://doi.org/10.1037/a0030635

Duffy, R. D., & Autin, K. L. (2013). Disentangling the link between perceiving a calling and living a calling. *Journal of Counseling Psychology*, *60*(2), 219–227. https://doi.org/10.1037/a0031934

Duffy, R. D., Autin, K. L., Allan, B. A., & Douglass, R. P. (2015). Assessing work as a calling: An evaluation of instruments and practice recommendations. *Journal of Career Assessment*, *23*(3), 351–366.

Duffy, R. D., Bott, E. M., Allan, B. A., Torrey, C. L., & Dik, B. J. (2012). Perceiving a calling, living a calling, and job satisfaction: testing a moderated, multiple mediator model. *Journal of Counseling Psychology*, *59*(1), 50–59. https://doi.org/10.1037/a0026129

Duffy, R. D., Douglass, R. P., Autin, K. L., England, J. W., & Dik, B. J. (2016). Does the dark side of a calling exist? Examining potential negative effects. *The Journal of Positive Psychology*, *11*(6), 634–646. https://doi.org/10.1080/17439760.2015.1137626

Duffy, R. D., England, J. W., Douglass, R. P., Autin, K. L., & Allan, B. A. (2017). Perceiving a calling and well-being: Motivation and access to opportunity as moderators. *Journal of Vocational Behavior*, *98*, 127–137. https://doi.org/10.1016/j.jvb.2016.11.003

Duffy, R. D., & Sedlacek, W. E. (2007). The presence of and search for a calling: Connections to career development. *Journal of Vocational Behavior*, *70*(3), 590–601. https://doi.org/10.1016/j.jvb.2007.03.007

Dutton, J. E., & Spreitzer, G. M. (2014). *How to be a positive leader: Small actions, big impact*. San Francisco, CA: Berrett-Koehler.

Edwards, M. J., & Holden, R. R. (2003). Coping, meaning in life, and suicidal manifestations: Examining gender differences. *Journal of Clinical Psychology, 59*(10), 1133–1150. https://doi.org/10.1002/jclp.10206

Elangovan, A.R., Pinder, C.C. and McLean, M. (2010) Callings and organizational behavior. *Journal of Vocational Behavior, 76*(3), 428–440. https://doi.org/10.1016/j.jvb.2009.10.009

Emmons, R. A., & Mishra, A. (2011). Why gratitude enhances well-being: What we know, what we need to know. In K. Sheldon, T. Kashdan, & M. Steger (Eds.), *Series in positive psychology. Designing positive psychology: Taking stock and moving forward* (pp. 248–262). New York, NY: Oxford University Press.

Enfield, R.P., & Ponzio, R. C. (2004). *Dewey's continuity and interaction model* [Graphic]. Retrieved from https://*http://slideplayer.com/slide/7232470/.*

Eriksson, M., & Lindström, B. (2006). Antonovsky's sense of coherence scale and the relation with health: A systematic review. *Journal of Epidemiology and Community Health, 60*(5), 376–381. https://doi.org/10.1136/jech.2005.041616

Esteves, T., & Lopes, M. P. (2016). Crafting a calling: The mediating role of calling between challenging job demands and turnover intention. *Journal of Career Development*, *44*(1), 34–48. https://doi.org/10.1177/0894845316633789

European Agency for Safety and Health at Work. (2009). *OSH in figures: Stress at work-—facts and figures* [Report]*.* Office for Official Publications of the European Communities. Retrieved from https://osha.europa.eu/en/tools-and-publications/publications/reports/TE-81-08-478-EN-C_OSH_in_figures_stress_at_work

European Social Survey. (2012). *ESS round 6 source questionnaire.* City University Centre for Comparative Social Surveys. Retrieved from http://www.europeansocialsurvey.org/docs/round6/fieldwork/source/ESS6_source_main_questionnaire.pdf

Evans, G. L. (2013). A novice researcher's first walk through the maze of grounded theory: Rationalization for classical grounded theory. *The Grounded Theory Review, 12*(1), 37–55.

Fannin, N., & Dabbs Jr., J. M. (2003). Testosterone and the work of firefighters: Fighting fires and delivering medical care. *Journal of Research in Personality*, *37*(2), 107–115.

Ferdman, B. M., Avigdor, A., Braun, D., Konkin, J., & Kuzmycz, D. (2010). Collective experience of inclusion, diversity, and performance in work groups. *RAM. Revista de Administração Mackenzie*, *11*(3), 6–26. https://doi.org/10.1590/S1678-69712010000300003

Ferguson, I. (2007). Neoliberalism, happiness and wellbeing. *International Socialism*, *117*, 87–121.

Ferrari, R. (2015). Writing narrative style literature reviews. *Medical Writing, 24*(4), 230–235.

Field, A. (2013). *Discovering statistics using IBM SPSS statistics* (4th ed.). London, UK: Sage.

Figley, C. R. (Ed.). (2012). *Encyclopedia of trauma: An interdisciplinary guide.* Thousand Oaks, CA: Sage. https://doi.org/10.4135/9781452218595

Figley, C. R., & Nash, W. P. (2011). *Combat stress injury: Theory, research, and management*. New York, NY: Routledge.

Finlay, L. (2003). The reflexive journey: Mapping multiple routes. In L. Finley & B. Gough (Eds.), *Reflexivity: a practical guide for researchers in health and social sciences* (pp. 3–20). Oxford, UK: Blackwell. https://doi.org/10.1002/9780470776094.ch1

Finlay, L., & Gough, B. (Eds.). (2003). *Reflexivity: A practical guide for researchers in health and social sciences*. Oxford, UK: Blackwell.

Folkman, S. (2011). *The Oxford handbook of stress, health, and coping*. New York, NY: Oxford University Press.

Frankl, V. E. (1966). What is meant by meaning? Journal of Existentialism, 7(25), 21–28.

Frankl, V. E. (1984). Man's search for meaning. New York, NY: Simon and Schuster.

Frawley, A. (2015). Happiness research: A review of critiques. *Sociology Compass*, *9*(1), 62–77. https://doi.org/10.1111/soc4.12236

Fredrickson, B. L. (2002). Positive emotions. In C. Snyder & S. Lopez (Eds.), *Handbook of positive psychology* (pp. 120–134). New York, NY: Oxford University Press.

Fredrickson, B. L. (2003). The value of positive emotions: The emerging science of positive psychology is coming to understand why it's good to feel good. *American Scientist*, *91*(4), 330–335.

Fredrickson, B. L., Cohn, M. A., Coffey, K. A., Pek, J., & Finkel, S. M. (2008). Open hearts build lives: positive emotions, induced through loving-kindness meditation, build consequential personal resources. *Journal of Personality and Social Psychology*, *95*(5), 1045–1062. https://doi.org/10.1037/a0013262

French, K., Golijani-Moghaddam, N., & Schröder, T. (2017). What is the evidence for the efficacy of self-help acceptance and commitment therapy? A systematic review and meta-analysis. *Journal of Contextual Behavioral Science, 6*(4), 360–374. https://doi.org/10.1016/j.jcbs.2017.08.002

Friedman, H. L., & Robbins, B. D. (2012). The negative shadow cast by positive psychology: Contrasting views and implications of humanistic and positive psychology on resiliency. *The Humanistic Psychologist*, *40*(1), 87–102. https://doi.org/10.1080/08873267.2012.643720

Gable, S. L., Reis, H. T., Impett, E. A., & Asher, E. R. (2004). What do you do when things go right? The intrapersonal and interpersonal benefits of sharing positive events. *Journal of*

Personality and Social Psychology, *87*(2), 228–245. https://doi.org/10.1037/0022-3514.87.2.228

Gagné, M., & Deci, E. L. (2005). Self-determination theory and work motivation. *Journal of Organizational Behavior*, *26*(4), 331–362. https://doi.org/10.1002/job.322

Galatzer-Levy, I. R., Brown, A. D., Henn-Haase, C., Metzler, T. J., Neylan, T. C., & Marmar, C. R. (2013). Positive and negative emotion prospectively predict trajectories of resilience and distress among high-exposure police officers. *Emotion*, *13*(3), 545–553. https://doi.org/10.1037/a0031314

Galvan, J. L., & Galvan, M. C. (2017). *Writing Literature Reviews: A Guide for Students of the Social and Behavioral Sciences*. New York, NY: Routledge.

Garcia-Sedeño, M., Navarro, J. I., & Menacho, I. (2009). Relationship between personality traits and vocational choice. *Psychological Reports*, *105*(2), 633–642. https://doi.org/10.2466/PR0.105.2.633-642

Garland, E. L., Fredrickson, B., Kring, A. M., Johnson, D. P., Meyer, P. S., & Penn, D. L. (2010). Upward spirals of positive emotions counter downward spirals of negativity: insights from the broaden-and-build theory and affective neuroscience on the treatment of emotion dysfunctions and deficits in psychopathology. *Clinical Psychology Review*, *30*(7), 849–864. https://doi.org/10.1016/j.cpr.2010.03.002

Gazica, M. W., & Spector, P. E. (2015). A comparison of individuals with unanswered callings to those with no calling at all. *Journal of Vocational Behavior*, *91*, 1–10. https://doi.org/10.1016/j.jvb.2015.08.008

Gershon, R. R. M., Barocas, B., Canton, A. N., Li, X., & Vlahov, D. (2008). Mental, physical, and behavioral outcomes associated with perceived work stress in police officers. *Criminal Justice and Behavior*, *36*(3), 275–289. https://doi.org/10.1177/0093854808330015

Geyer, S., & Peter, R. (2000). Income, occupational position, qualification and health inequalities—competing risks? (Comparing indicators of social status). *Journal of Epidemiology & Community Health*, *54*(4), 299–305. https://doi.org/10.1136/jech.54.4.299

Gist, R., & Taylor, V. H. (2008). Occupational and organizational issues in emergency medical services behavioral health. *Journal of Workplace Behavioral Health*, *23*(3), 309–330. https://doi.org/10.1080/15555240802243120

Glaser, B. G. (1978). *Theoretical sensitivity: Advances in the methodology of grounded theory*. Mill Valley, CA: Sociology Press.

Glaser, B. G. (1992). *Basics of grounded theory analysis: Emergence vs forcing.* Mill Valley, CA: Sociology Press.

Glaser, B. G., & Strauss, A. L. (1967). *The discovery of grounded theory: Strategies for*

qualitative research. New Brunswick, Canada: Aldine Transaction.

González, M. G., Swanson, D. P., Lynch, M., & Williams, G. C. (2016). Testing satisfaction of basic psychological needs as a mediator of the relationship between socioeconomic status and physical and mental health. *Journal of Health Psychology*, *21*(6), 972–982. https://doi.org/10.1177/1359105314543962

Gough, B. (2003). Deconstructing reflexivity. In L. Finley & B. Gough (Eds.), *Reflexivity: A practical guide for researchers in health and social sciences* (pp. 21–36). Oxford, UK: Blackwell.

Gough, B. (2016). Reflexivity in qualitative psychological research, *The Journal of Positive Psychology, 12*(3), 311–312. https://doi.org/10.1080/17439760.2016.1262615

Govindji, R., & Linley, P. A. (2007). Strengths use, self-concordance and well-being: Implications for strengths coaching and coaching psychologists. *International Coaching Psychology Review*, *2*(2), 143–153.

Grant, A. M., & Ashford, S. J. (2008). The dynamics of proactivity at work. *Research in Organizational Behavior*, *28*, 3–34. https://doi.org/10.1016/j.riob.2008.04.002

Grant, N. K., & Hoover, D. H. (1994). *Fire service administration*. Sudbury, MA: Jones & Bartlett Learning.

Grant, N., Wardle, J., & Steptoe, A. (2009). The relationship between life satisfaction and health behavior: a cross-cultural analysis of young adults. *International Journal of Behavioral Medicine*, *16*(3), 259–268. https://doi.org/10.1007/s12529-009-9032-x

Gravetter, F. J., & Wallnau, L. B. (2016). *Statistics for the behavioral sciences* (10th ed.). Boston, MA: Cengage Learning.

Grawitch, M. J., Barber, L. K., & Kruger, M. H. (2010). Role identification, community socio-economic status demands, and stress outcomes in police officers. *Anxiety, Stress, and Coping*, *23*(2), 165–180. https://doi.org/10.1080/10615800902935542

Green, B. N., Johnson, C. D., & Adams, A. (2006). Writing narrative literature reviews for peer-reviewed journals: Secrets of the trade. *Journal of Chiropractic Medicine*, *5*(3), 101–117. https://doi.org/10.1016%2FS0899-3467(07)60142-6

Greene, J. C., Caracelli V. J., & Graham W. F. (1989). Toward a conceptual framework for mixed method evaluation designs. *Educational Evaluation Policy Analysis, 11*(3), 255–274. https://doi.org/10.2307/1163620

Greenhaus, J. H., & Powell, G. N. (2006). When work and family are allies: A theory of work-family enrichment. *Academy of Management Review. Academy of Management*, *31*(1), 72–92. https://doi.org/10.2307/20159186

Griffiths, C. A. (2010). *A critical analysis of Antonovsky's sense of coherence theory in relation*

to mental health and mental disorder and the effect of a lifelong learning intervention on the sense of coherence of mental health service users. London, UK: Middlesex University.

Guba, E. G., & Lincoln, Y. S. (1982). Epistemological and methodological bases of naturalistic inquiry. *Educational Communication and Technology Journal, 30*(47), 233–252. https://doi.org/10.1007/BF02765185

Guba, E. G., Lincoln, Y. S. (1994). Competing paradigms in qualitative research. In N. K. Denzin & Y. S. Lincoln (Eds.), *Handbook of qualitative research* (pp. 105-117). London, UK: Sage.

Gubrium, J. F., & Holstein, J. A. (Eds.). (2002). *Handbook of interview research: Context and method.* Thousand Oaks, CA: Sage.

Haar, J. M., Russo, M., Suñe, A., & Ollier-Malaterre, A. (2014). Outcomes of work-life balance on job satisfaction, life satisfaction and mental health: A study across seven cultures. *Journal of Vocational Behavior*, *85*(3), 361–373. https://doi.org/10.1016/j.jvb.2014.08.010

Hagmaier, T., Volmer, J., & Spurk, D. (2013). Calling and burnout: Integrating career research with occupational health psychology. In B. R. Doolittle (Ed.), *Psychology of burnout: New research* (pp. 19–32). New York, NY: Nova Science.

Hahn, V. C., Binnewies, C., Sonnentag, S., & Mojza, E. J. (2011). Learning how to recover from job stress: effects of a recovery training program on recovery, recovery-related self-efficacy, and well-being. *Journal of Occupational Health Psychology*, *16*(2), 202–216. https://doi.org/10.1037/a0022169

Hall, D. T., & Chandler, D. E. (2005). Psychological success: When the career is a calling. *Journal of Organizational Behavior, 26,* 155–176. https://doi.org/10.1002/job.301

Hall, G. B., Dollard, M. F., Tuckey, M. R., Winefield, A. H., & Thompson, B. M. (2010). Job demands, work-family conflict, and emotional exhaustion in police officers: A longitudinal test of competing theories. *Journal of Occupational and Organizational Psychology*, *83*(1), 237–250. https://doi.org/10.1348/096317908X401723

Halpern, J., Gurevich, M., Schwartz, B., & Brazeau, P. (2009). What makes an incident critical for ambulance workers? Emotional outcomes and implications for intervention. *Work & Stress*, *23*(2), 173–189. https://doi.org/10.1080/02678370903057317

Hamling, K., & Jarden, A. (2016). Wellbeing and recovery in the emergency services: How do we care for those who care for us? In M. Slade, L. Oades, & A. Jarden (Eds.), *Wellbeing, recovery and mental health* (pp. 157–168). Cambridge, UK: Cambridge University Press.

Hamling, K., Jarden, A., & Schofield, G. (2015). Recipes for occupational wellbeing: An investigation of the associations with wellbeing in New Zealand workers. *New Zealand Journal of Human Resource Management*, *12*(2), 151–173.

Hardin, G. (1968). The tragedy of the commons. The population problem has no technical solution; it requires a fundamental extension in morality. *Science*, *162*(3859), 1243–1248. https://doi.org/10.1126/science.162.3859.1243

Harland, L., Harrison, W., Jones, J. R., & Reiter-Palmon, R. (2005). Leadership behaviors and subordinate resilience. *Journal of Leadership & Organizational Studies*, *11*(2), 2–14. https://doi.org/10.1177/107179190501100202

Harlow, L. L., Newcomb, M. D., & Bentler, P. M. (1986). Depression, self-derogation, substance use, and suicide ideation: Lack of purpose in life as a mediational factor. *Journal of Clinical Psychology, 42*(1), 5–21. https://doi.org/10.1002/1097-4679(198601)42:1<5::AID-JCLP2270420102>3.0.CO;2-9

Harris, R. (2009). *ACT made simple: An easy-to-read primer on acceptance and commitment therapy*. Oakland: CA New Harbinger Publications.

Hart, P., & Cotton, P. (2003). Conventional wisdom is often misleading: Police stress within an organisational health framework. In M.F. Dollard, A.H. Winefield, & H.R. Winefield (Eds.), *Occupational stress in the service professions* (pp. 103-141). London, UK: Taylor & Francis.

Hart, P., Cotton, P., & Scollay, C. (2015). Flourishing at work: Improving wellbeing and engagement. In R. J. Burke, K. M. Page, & C. L. Cooper (Eds.), *Flourishing in life, work and careers: Individual wellbeing and career experiences* (pp. 281–314). Cheltenham, UK: Edward Elgar.

Harvard Business Review. (2013). *The employer of choice: How will corporate citizenship and sustainable shared values create a new competitive edge?* [Industry booklet] Retrieved from https://hbr.org/resources/pdfs/comm/siemens/hbr_siemens_report.pdf

Hayes, S. C. (2016). *ACT and the core design principles* [Blog]. Retrieved from https://www.prosocial.world/post/act-and-the-core-design-principles

Hayes, S. C., Barnes-Holmes, D., & Wilson, K. G. (2012). Contextual behavioral science: Creating a science more adequate to the challenge of the human condition. *Journal of Contextual Behavioral Science*, *1*(1), 1–16.

Hayes, S. C., Luoma, J. B., Bond, F. W., Masuda, A., & Lillis, J. (2006). Acceptance and commitment therapy: model, processes and outcomes. *Behaviour Research and Therapy*, *44*(1), 1–25. https://doi.org/10.1016/j.brat.2005.06.006

Hayes, S. C., Strosahl, K., and Wilson, K. (2011). *Acceptance and commitment therapy: The process and practice of mindful change.* New York, NY: The Guilford Press.

Heaphy, E. D., & Dutton, J. E. (2008). Positive social interactions and the human body at work: Linking organizations and physiology. *Academy of Management Review. Academy of Management*, *33*(1), 137–162. https://doi.org/10.2307/20159380

Hefferon, D. K., Ashfield, A., Waters, D. L., & Synard, J. (2017). Understanding optimal human functioning – The 'call for qual' in exploring human flourishing and well-being. *The Journal of Positive Psychology*, *12*(3), 211–219. https://doi.org/10.1080/17439760.2016.1225120

Heisel, M. J., & Flett, G. L. (2004). Purpose in life, satisfaction with life, and suicide ideation in a clinical sample. *Journal of Psychopathology and Behavioral Assessment, 26*(2), 127–135. https://doi.org/10.1023/B:JOBA.0000013660.22413.e0

Heisel, M. J., & Flett, G. L. (2014). Do meaning in life and purpose in life protect against suicide ideation among community-residing older adults?. In A. Batthyany & P. Russo-Netzer (Eds.). *Meaning in positive and existential psychology* (pp. 303–324). New York, NY: Springer. https://doi.org/10.1007/978-1-4939-0308-5_18

Held, B. S. (2002). The tyranny of the positive attitude in America: Observation and speculation. *Journal of Clinical Psychology*, *58*(9), 965–991. https://doi.org/10.1002/jclp.10093

Held, B. S. (2004). The negative side of positive psychology. *Journal of Humanistic Psychology*, *44*(1), 9–46. https://doi.org/10.1177/0022167803259645

Helgeson, V. S., Reynolds, K. A., & Tomich, P. L. (2006). A meta-analytic review of benefit finding and growth. *Journal of Consulting and Clinical Psychology*, *74*(5), 797–816. https://doi.org/10.1037/0022-006X.74.5.797

Helliwell, J., Layard, R., & Sachs, J. (Eds.). (2018). *World happiness report* [Independent report]. Sustainable Development Solutions Network. Retrieved from http://worldhappiness.report/ed/2018/

Helliwell, J. F., & Putnam, R. D. (2004). The social context of well-being. *Philosophical Transactions of the Royal Society B: Biological Sciences*, *359*(1449), 1435–1446. http://doi.org/10.1098/rstb.2004.1522

Herrman, H., Saxena, S., Moodie, R., & Walker, L. (2005). Introduction: Promoting mental health as a public health priority. In H. Herman, S. Saxena, & R. Moodie (Eds.), P*romoting mental health: concepts, emerging evidence, practice (pp. 2*–15). [WHO report]. Retrieved from http://apps.who.int/iris/bitstream/10665/43286/1/9241562943_eng.pdf

Hetherington, A. (2001). *The use of counselling skills in the emergency services*. Buckingham, UK: Open University Press.

Hirschi, A., Keller, A. C., & Spurk, D. M. (2018). Living one's calling: Job resources as a link between having and living a calling. *Journal of vocational behavior*, *106*, 1-10. https://doi.org/10.1016/j.jvb.2017.12.001

Hildebrand, D. (2008). *Dewey: A beginner's guide*. Oxford, UK: Oneworld Publications.

Hobfoll, S. E. (1989). Conservation of resources. A new attempt at conceptualizing stress. *The American Psychologist*, *44*(3), 513–524. https://doi.org/10.1037/0003-066X.44.3.513

Hobfoll, S. E. (2002). Social and psychological resources and adaptation. *Review of General Psychology*, *6*(4), 307–324. https://doi.org/10.1037/1089-2680.6.4.307

Hobfoll, S. E. (2011). Conservation of resources theory: Its implication for stress, health, and resilience. In S. Folkman (Ed.) *The Oxford Handbook of Stress, Health, and Coping*, 127–147. https://doi.org/10.1093/oxfordhb/9780195375343.013.000

Hobfoll, S. E., Dunahoo, C. A., & Monnier, J. (1995). Conservation of resources and traumatic stress. In J. R. Freedy & S. E. Hobfoll (Eds.), *Traumatic stress: From theory to practice* (pp. 29–47). New York, NY: Plenum Press.

Hobfoll, S. E., & Shirom, A. (2000). Conservation of resources theory: applications to stress and management in the workplace. In R. T. Golembiewski (Ed.), *Handbook of organization behavior* (pp. 57–81). New York, NY: Dekker.

Hogg, M. A. (1992). *The social psychology of group cohesiveness: From attraction to social identity*. London, UK: Harvester Wheatsheaf.

Hollifield, M., Gory, A., Siedjak, J., Nguyen, L., Holmgreen, L., & Hobfoll, S. (2016). The benefit of conserving and gaining resources after trauma: A systematic review. *Journal of Clinical Medicine Research*, *5*(11), 104–119. https://doi.org/10.3390/jcm5110104

Hone, L. C., Jarden, A., Duncan, S., & Schofield, G. M. (2015). Flourishing in New Zealand workers: Associations with lifestyle behaviors, physical health, psychosocial, and work-related indicators. *Journal of Occupational and Environmental Medicine / American College of Occupational and Environmental Medicine*, *57*(9), 973–983. https://doi.org/10.1097/JOM.0000000000000508

Hone, L. C., Jarden, A., & Schofield, G. M. (2014). Psychometric properties of the flourishing scale in a New Zealand sample. *Social Indicators Research*, *119*(2), 1031–1045.

Hone, L. C., Jarden, A., & Schofield, G. M. (2015). An evaluation of positive psychology intervention effectiveness trials using the re-aim framework: A practice-friendly review. *The Journal of Positive Psychology*, *10*(4), 303–322. https://doi.org/10.1080/17439760.2014.965267

Hone, L. C., Jarden, A., Schofield, G., & Duncan, S. (2014). Measuring flourishing: The impact of operational definitions on the prevalence of high levels of wellbeing. *International Journal of Wellbeing, 4*(1), 62–90. https://doi.org/10.5502/ijw.v4i1.4

Hookway, C. (2012). *The pragmatic maxim: Essays on Peirce and pragmatism*. Oxford, UK: Oxford University Press.

Howell, R. T., Kern, M. L., & Lyubomirsky, S. (2007). Health benefits: Meta-analytically determining the impact of well-being on objective health outcomes. *Health Psychology Review*, *1*(1), 83–136. https://doi.org/10.1080/17437190701492486

Hudson, M. L. & Russell, K. (2009). The Treaty of Waitangi and research ethics in Aotearoa. *Journal of Bioethical Inquiry, 6*(1), 61–68. https://doi.org/10.1007/s11673-008-9127-0

Hughes, R., Kinder, A. and Cooper, C. L. (Eds.) (2012) *International handbook of workplace trauma support.* Oxford, UK: Wiley-Blackwell.

Huppert, F. A., & So, T. T. C. (2013). Flourishing across Europe: Application of a new conceptual framework for defining well-being. *Social Indicators Research*, *110*(3), 837–861. https://doi.org/10.1007%2Fs11205-011-9966-7

Huppert, F. A., & Whittington, J. E. (2003). Evidence for the independence of positive and negative well-being: Implications for quality of life assessment. *British Journal of Health Psychology, 8*(1), 107–122. https://doi.org/10.1348/135910703762879246

Ito, J. K., & Brotheridge, C. M. (2003). Resources, coping strategies, and emotional exhaustion: A conservation of resources perspective. *Journal of Vocational Behavior*, *63*(3), 490–509. https://doi.org/10.1016/S0001-8791(02)00033-7

Ivtzan, I., Lomas, T., Hefferon, K., & Worth, P. (2015). *Second wave positive psychology: Embracing the dark side of life*. New York, NY: Routledge.

Iyengar, S. S., Wells, R. E., & Schwartz, B. (2006). Doing better but feeling worse: Looking for the "best" job undermines satisfaction. *Psychological Science*, *17*(2), 143–150. https://doi.org/10.1111/j.1467-9280.2006.01677.x

Jarden, A., Mackay, L., White, K., Schofield, G., Duncan, S., Williden, M., … McPhee, J. (2013). The Sovereign New Zealand wellbeing index. *Psychology Aotearoa*, *5*(1), 22–27. https://doi.org/10.5502/ijw.v4i1.4

Jo, I., Lee, S., Sung, G., Kim, M., Lee, S., Park, J., & Lee, K. (2018). Relationship between burnout and PTSD symptoms in firefighters: the moderating effects of a sense of calling to firefighting. *International Archives of Occupational and Environmental Health*, *91*(1), 117–123. https://doi.org/10.1007/s00420-017-1263-6

Johnson, R. B., & Onwuegbuzie, A. J. (2004). Mixed methods research: A research paradigm whose time has come. *Educational Researcher*, *33*(7), 14–26. https://doi.org/10.3102/0013189X033007014

Johnson, S., Cooper, C., Cartwright, S., Donald, I., Taylor, P., & Millet, C. (2005). The experience of work-related stress across occupations. *Journal of Managerial Psychology*, *20*(2), 178–187. https://doi.org/10.1108/02683940510579803

Johnson, M. T. (2011). Towards the development of objective, universal criteria of cultural evaluation: The challenges posed by anti-foundationalism, culturalism and romanticism. *Social Indicators Research, 102*(2), 275–296. https://doi.org/10.1007/s11205-010-9680-x

Jones, M., Sundin, J., Goodwin, L., Hull, L., Fear, N. T., Wessely, S., & Rona, R. J. (2013). What explains post-traumatic stress disorder (PTSD) in UK service personnel: deployment or something else? *Psychological Medicine*, *43*(8), 1703–1712. https://doi.org/10.1017/S0033291712002619

Jootun, D., McGhee, G., & Campus, H. (2009). Reflexivity: Promoting rigour in qualitative research. *Nursing Standard, 23*(23), 42–46. https://doi.org/10.7748/ns2009.02.23.23.42.c6800

Joseph, S., Beer, C., Clarke, D., Forman, A., Pickersgill, M., Swift, J., … Tischler, V. (2009). Qualitative research into mental health: Reflections on epistemology. *Mental Health Review Journal, 14*(1), 36–42. https://doi.org/10.1108/13619322200900006

Joseph, S., & Sagy, S. (2016). Positive psychology in the context of salutogenesis. In M. B. Mittelmark, S. Sagy, M. Eriksson, G. F. Bauer, J. M. Pelikan, B. Lindström, & G. A. Espnes (Eds.), *The handbook of salutogenesis* (pp. 83–88). Cham, Switzerland: Springer.

Kahneman, D. (2011). *Thinking, fast and slow*. New York, NY: Farrer, Strauss, & Giroux.

Kaplan, G. A., Salonen, J. T., Cohen, R. D., Brand, R. J., Syme, S. L., & Puska, P. (1988). Social connections and mortality from all causes and from cardiovascular disease: prospective evidence from eastern Finland. *American Journal of Epidemiology*, *128*(2), 370–380.

Karanika-Murray, M., & Biron, C. (2015). Introduction. Why do some interventions derail? Deconstructing the elements of organizational interventions for stress and well-being. In *Derailed Organizational Interventions for Stress and Well-Being* (pp. 1-15). Dordrecht, Netherlands: Springer.

Kelly, J., & Cameron, K. (2017). Applying positive organisational scholarship to produce extraordinary performance. In C. Proctor (Ed.), *Positive psychology interventions in practice* (pp. 207–217). Cham, Switzerland: Springer.

Keyes, C. L. M. (2002). The mental health continuum: From languishing to flourishing in life. *Journal of Health and Social Behavior*, *43*(2), 207–222.

Keyes, C. L. M. (2005). Mental illness and/or mental health? Investigating axioms of the complete state model of health. *Journal of Consulting and Clinical Psychology*, *73*(3), 539–548. https://doi.org/10.1037/0022-006X.73.3.539

Keyes, C. L. M. (2007). Promoting and protecting mental health as flourishing: A complementary strategy for improving national mental health. *The American Psychologist*, *62*(2), 95–108. https://doi.org/10.1037/0003-066X.62.2.95

Keyes, C. L. M. (2012). Promoting and protecting positive mental health: Early and often throughout the lifespan. In C. L. M. Keyes (Ed.), *Mental well-being: International*

contributions to the study of positive mental health (pp. 3–28). Dordrecht, Netherlands: Springer.

Keyes, C. L. M., Dhingra, S. S., & Simoes, E. J. (2010). Change in level of positive mental health as a predictor of future risk of mental illness. *American Journal of Public Health*, *100*(12), 2366–2371. https://doi.org/10.2105/AJPH.2010.192245

Kidder, D. L. (2007). Restorative justice: not “rights”, but the right way to heal relationships at work. *International Journal of Conflict Management*, *18*(1), 4–22. https://doi.org/10.1108/10444060710759291

King, W. R. (2003). Bending granite revisited: the command rank structure of American police organizations. *Policing: An International Journal*, *26*(2), 208–230. https://doi.org/10.1108/13639510310475732

King, L. A., Hicks, J. A., Krull, J., & Del Gaiso, A. K. (2006). Positive affect and the experience of meaning in life. *Journal of Personality and Social Psychology, 90*(1), 179–196. https://doi.org/10.1037/0022-3514.90.1.179

Kirby, R., Shakespeare-Finch, J., & Palk, G. (2011). Adaptive and maladaptive coping strategies predict posttrauma outcomes in ambulance personnel. *Traumatology*, *17*(4), 25–34. https://doi.org/10.1177/1534765610395623

Kirkbride, P. (2006). Developing transformational leaders: the full range leadership model in action. *Industrial and Commercial Training*, *38*(1), 23–32.

Kleim, B., & Ehlers, A. (2009). Evidence for a curvilinear relationship between posttraumatic growth and posttrauma depression and PTSD in assault survivors. *Journal of Traumatic Stress*, *22*(1), 45–52. https://doi.org/10.1002/jts.20378

Kleim, B., & Westphal, M. (2011). Mental health in first responders: A review and recommendation for prevention and intervention strategies. *Traumatology*, *17*(4), 17–24. https://doi.org/10.1177/1534765611429079

Kleiman, E. M., & Beaver, J. K. (2013). A meaningful life is worth living: Meaning in life as a suicide resiliency factor. *Psychiatry Research*, *210*(3), 934–939. https://doi.org/10.1016/j.psychres.2013.08.0028

Klonsky, E. D., May, A M., & Saffer, B. Y. (2016). Suicide, suicide attempts, and suicidal ideation. *Annual Review of Clinical Psychology,12,* 307–330. https://doi.org/10.1146/annurev-clinpsy-021815-093204

Koch, R. (2011). *Living the 80/20 way, new edition: Work less, worry less, succeed more, enjoy more*. London, UK: Nicholas Brealey.

Kok, B. E., Coffey, K. A., Cohn, M. A., Catalino, L. I., Vacharkulksemsuk, T., Algoe, S. B., … Fredrickson, B. L. (2013). “How positive emotions build physical health: Perceived positive

social connections account for the upward spiral between positive emotions and vagal tone": Corrigendum. *Psychological Science*, *24*(7), 1123–1132. https://doi.org/10.1177/0956797616647346

Laloux, F. (2014). *Reinventing organizations: A guide to creating organiations inspired by the next stage of human consciousness.* Brussels, Belgium: Nelson Parker.

LaMontagne, A. D., Keegel, T., & Vallance, D. (2007). Protecting and promoting mental health in the workplace: developing a systems approach to job stress. *Health Promotion Journal of Australia: Official Journal of Australian Association of Health Promotion Professionals*, *18*(3), 221–228.

LaMontagne, A. D., Martin, A., Page, K. M., Reavley, N. J., Noblet, A. J., Milner, A. J., … Smith, P. M. (2014). Workplace mental health: developing an integrated intervention approach. *BMC Psychiatry*, *14*, 131. https://doi.org/10.1186/1471-244X-14-131

LaMontagne, A., Milner, A., Allisey, A., Page, K., Reavley, N., Martin, A., … Smith, P. M. (2016). An integrated workplace mental health intervention in a policing context: Protocol for a cluster randomised control trial. *BMC Psychiatry, 16,* 49. https://doi.org/10.1186/s12888-016-0741-9

LaMontagne, A. D., Shaw, A., Ostry, A., Louie, A. M., & Keegel, T. G. (2006). *Workplace stress in Victoria: Developing a systems approach* [Government report]. Victorian Health Promotion Foundation. Retrieved from https://www.researchgate.net/profile/Anthony_LaMontagne/publication/282235480_Workplace_stress_in_Victoria_Developing_a_systems_approach/links/5608aaac08aea25fce3b85b8/Workplace-stress-in-Victoria-Developing-a-systems-approach.pdf?origin=publication_detail

Lapierre, S., Dubé, M., Bouffard, L., & Alain, M. (2007). Addressing suicidal ideations through the realization of meaningful personal goals. *Crisis: The Journal of Crisis Intervention and Suicide Prevention, 28*(1), 16–25. https://doi.org/10.1027/0227-5910.28.1.16

Larsen, B., Aisbett, B., & Silk, A. (2016). The injury profile of an Australian specialist policing unit. *International Journal of Environmental Research and Public Health, 13*(4), 370. https://doi.org/10.3390/ijerph13040370

Layard, R. (2011). *Happiness: Lessons from a new science.* London, UK: Penguin.

Layous, K., Chancellor, J., & Lyubomirsky, S. (2014). Positive activities as protective factors against mental health conditions. *Journal of Abnormal Psychology*, *123*(1), 3–12. https://doi.org/10.1037/a0034709

Leana, C., Appelbaum, E., & Shevchuk, I. (2009). Work process and quality of care in early childhood education: The role of job crafting. *Academy of Management Journal. Academy*

of Management, *52*(6), 1169–1192. https://doi.org/10.5465/AMJ.2009.47084651

Lee, R. T., & Ashforth, B. E. (1996). A meta-analytic examination of the correlates of the three dimensions of job burnout. *The Journal of Applied Psychology*, *81*(2), 123–133. https://doi.org/10.1037/0021-9010.81.2.123

Lee, S., & Olshfski, D. (2002). Employee commitment and firefighters: It's my job. *Public Administration Review*, *62*(s1), 108–114. https://doi.org/10.1111/1540-6210.62.s1.19

Leem, J., Kim, Y., Heo, J., Jung, M., Kim, S., Lee, H., ... & Kim, T. H. (2017). Experiences, perceptions and needs on the education of evidence-based medicine among Korean Medicine college students: A nationwide online survey. *European Journal of Integrative Medicine*, *15*, 10–16. https://doi.org/10.1016/j.eujim.2017.09.001

Lempert, L. B. (2007). Asking questions of the data: Memo writing in the grounded theory tradition. In A. Bryant & K. Charmaz (Eds.), *The Sage Handbook of Grounded Theory* (pp. 245–264). Los Angeles, CA: Sage.

Lines, A. (2010). *Everyday heroes* [Song lyrics]. Retrieved from https://genius.com/Aaron-lines-everyday-heroes-lyrics

Llewellyn, D. J., Lang, I. A., Langa, K. M., & Huppert, F. A. (2008). Cognitive function and psychological well-being: findings from a population-based cohort. *Age and Ageing*, *37*(6), 685–689. https://doi.org/10.1093%2Fageing%2Fafn194

Lofland, J., & Lofland, L. H. (1995). *Analyzing social settings: A guide to qualitative research and analysis* (3rd ed.). Belmont, CA: Wadsworth.

Lomas, T. (2015). Positive social psychology: A multilevel inquiry into sociocultural well-being initiatives. *Psychology, Public Policy, and Law*, *21*(3), 338–347. https://doi.org/10.1037/law0000051

Lomas, T., & Ivtzan, I. (2016). Second wave positive psychology: Exploring the positive–negative dialectics of wellbeing. *Journal of Happiness Studies*, *17*(4), 1753–1768. https://doi.org/10.1007/s10902-015-9668-y

Lundh, M., & Rydstedt, L. W. (2016). A static organization in a dynamic context--A qualitative study of changes in working conditions for Swedish engine officers. *Applied Ergonomics*, *55*, 1–7. https://doi.org/10.1016/j.apergo.2016.01.006

Luoma, J. B., Hayes, S. C., & Walser, R. D. (2017). *Learning ACT: An acceptance and commitment therapy skills-training manual for therapists.* Oakland, CA: New Harbinger.

Luthans, F. (2002a). Positive organizational behavior: Developing and managing psychological strengths. *The Academy of Management Executive*, *16*(1), 57–72. https://doi.org/10.5465/AME.2002.6640181

Luthans, F. (2002b). The need for and meaning of positive organizational behavior. *Journal of*

Organizational Behavior, *23*(6), 695–706. https://doi.org/10.1002/job.165

Luthans, F., Avey, J. B., & Patera, J. L. (2008). Experimental analysis of a web-based training intervention to develop positive psychological capital. *Academy of Management Learning & Education*, *7*(2), 209–221. https://doi.org/10.5465/AMLE.2008.32712618

Luthans, F., Youssef-Morgan, C. M., & Avolio, B. J. (2015). *Psychological capital and beyond*. Oxford, UK: Oxford University Press.

Lykins, E. L. B., Segerstrom, S. C., Averill, A. J., Evans, D. R., & Kemeny, M. E. (2007). Goal shifts following reminders of mortality: reconciling posttraumatic growth and terror management theory. *Personality & Social Psychology Bulletin*, *33*(8), 1088–1099. https://doi.org/10.1177/0146167207303015

Lynch Jr., Martin, F., Plant, R. W., & Ryan, R. M. (2005). Basic need satisfaction at work scale--adapted. *PsycTESTS dataset*. Washington, DC: American Psychological Association. https://doi.org/10.1037/t25219-000

Lynch, M. P. (2009). *Truth as one and many*. Oxford, UK: Oxford University Press.

Lyons, J. B., & Schneider, T. R. (2009). The effects of leadership style on stress outcomes. *The Leadership Quarterly*, *20*(5), 737–748. https://doi.org/10.1016/j.leaqua.2009.06.010

Lyubomirsky, S., Sheldon, K. M., & Schkade, D. (2005). Pursuing happiness: The architecture of sustainable change. *Review of General Psychology*, *9*(2), 111–131. https://doi.org/10.1037/1089-2680.9.2.111

Lyubomirsky, S., King, L., & Diener, E. (2005). The benefits of frequent positive effect: Does happiness lead to success? *Psychological Bulletin, 131*(6), 803–855. https://doi.org/10.1037/0033-2909.131.6.803

Maguen, S., Metzler, T. J., McCaslin, S. E., Inslicht, S. S., Henn-Haase, C., Neylan, T. C., & Marmar, C. R. (2009). Routine work environment stress and PTSD symptoms in police officers. *The Journal of Nervous and Mental Disease*, *197*(10), 754–760. https://doi.org/10.1097%2FNMD.0b013e3181b975f8

Maitlis, S., & Ozcelik, H. (2004). Toxic decision processes: A study of emotion and organizational decision making. *Organization Science*, *15*(4), 375–393. https://doi.org/10.1287/orsc.1040.0070

Maneotis, S. M., Grandey, A. A., & Krauss, A. D. (2014). Understanding the “why” as well as the “how”: Service performance is a function of prosocial motives and emotional labor. *Human Performance*, *27*(1), 80–97. https://doi.org/10.1080/08959285.2013.854366

Maneotis, S. M., & Krauss, A. D. (2015). A proper needs assessment is key to starting a wellbeing intervention off right. In M. Karanika & C. Biron (Eds.), *Derailed organizational interventions for stress and well-being* (pp. 229–236). Dordrecht, Netherlands: Springer.

Marco, J. H., Pérez, S., & García-Alandete, J. (2016). Meaning in life buffers the association between risk factors for suicide and hopelessness in participants with mental disorders. *Journal of Clinical Psychology*, *72*(7), 689-700. https://doi.org/10.1002/jclp.22285

Marmot, M. (2004). *The status syndrome: How social standing affects our health and longevity*. New York, NY: Henry Holt.

Marmot, M. G., Rose, G., Shipley, M., & Hamilton, P. J. (1978). Employment grade and coronary heart disease in British civil servants. *Journal of Epidemiology and Community Health*, *32*(4), 244–249.

Marmot, M. G., Smith, G. D., Stansfeld, S., Patel, C., North, F., Head, J., … Feeney, A. (1991). Health inequalities among British civil servants: The Whitehall II study. *The Lancet*, *337*(8754), 1387–1393. https://doi.org/10.1016/0140-6736(91)93068-K

Martin, A., Sanderson, K., & Cocker, F. (2009). Meta-analysis of the effects of health promotion intervention in the workplace on depression and anxiety symptoms. *Scandinavian Journal of Work, Environment & Health*, *35*(1), 7–18.

Mascaro, N., & Rosen, D. H. (2005). Existential meaning's role in the enhancement of hope and prevention of depressive symptoms. *Journal of Personality, 73*(4), 985–1014. https://doi.org/10.1111/j.1467-6494.2005.00336.x

Maxcy, S. J. (2003). Pragmatic threads in mixed methods research in the social sciences: The search for multiple modes of inquiry and the end of the philosophy of formalism. In A. Tashakkori & C. Teddlie (Eds.), *Handbook of mixed methods in social and behavioral research* (pp. 51–89). Thousand Oaks, CA: Sage.

McClelland, G. P., Leach, D. J., Clegg, C. W., & McGowan, I. (2014). Collaborative crafting in call centre teams. *Journal of Occupational and Organizational Psychology*, *87*(3), 464–486. https://doi.org/10.1111/joop.12058

McDonald, M., & O'Callaghan, J. (2008). Positive psychology: A Foucauldian critique. *The Humanistic Psychologist, 36*(2), 127–142. https://doi.org/10.1080/08873260802111119

McNulty, J. K., & Fincham, F. D. (2012). Beyond positive psychology? Toward a contextual view of psychological processes and wellbeing. *American Psychologist, 67*(2), 101–110. https://doi.org/10.1037/a0024572

Meng, Z., Wu, X., & Han, L. (2018). Post-traumatic stress disorder and posttraumatic growth among the adult survivors of the Lushan earthquake: Selecting resilience as the moderator. *International Journal of Disaster Risk Reduction*, *27*, 524–529. https://doi.org/10.1016/j.ijdrr.2017.11.016

Menon, G. M. (2002). *Using the internet as a research tool for social work and human services*. Boca Raton, FL: CRC Press.

Mertens, D. M. (2014). *Research and evaluation in education and psychology: Integrating diversity with quantitative, qualitative, and mixed methods*. Thousand Oaks, CA: Sage.

Mezzich, J. E., Botbol, M., Christodoulou, G. N., Cloninger, C.R, & Salloum, I. M. (2017). Introduction to *person centered psychiatry*. In J. E. Mezzich, M. Bothol, G. N. Christodoulou, C. R. Cloninger, & I. M. Salloum (Eds.), Person centered psychiatry (pp. 1–15). New York, NY: Springer.

Michaelson, C., Pratt, M. G., Grant, A. M., & Dunn, C. P. (2014). Meaningful work: Connecting business ethics and organization studies. *Journal of Business Ethics*, *121*(1), 77–90. https://doi.org/10.1007/s10551-013-1675-5

Miller, A. (2008). A critique of positive psychology—or "the new science of happiness." *Journal of Philosophy of Education*, *42*(3-4), 591–608. https://doi.org/10.1111/j.1467-9752.2008.00646.x

Mills, M. J., Fleck, C. R., & Kozikowski, A. (2013). Positive psychology at work: A conceptual review, state-of-practice assessment, and a look ahead. *The Journal of Positive Psychology*, *8*(2), 153–164. https://doi.org/10.1080/17439760.2013.776622

Minichiello, V., Aroni, R., & Hays, T. (2008). *In-depth interviewing: Principles, techniques, analysis* (3rd ed.). Melbourne, Australia: Pearson Education Australia.

Ministry for Culture and Heritage (n.d.). The Treaty in brief. *New Zealand history* [Online encyclopaedia]. Retrieved from https://nzhistory.govt.nz/politics/treaty/the-treaty-in-brief

Ministry of Health. (2006). *Operational standard for ethics committees.* [Booklet]. Retrieved from https://www.parliament.nz/resource/0000162273

Ministry of Health. (2006/07). N*ew Zealand health survey: Adult questionnaire.* Retrieved from https://www.health.govt.nz/nz-health-statistics/national-collections-and-surveys/surveys/current-recent-surveys/new-zealand-health-survey#method

Mitchell, J. T. (1983). When disaster strikes...the critical incident stress debriefing process. *JEMS: A Journal of Emergency Medical Services*, *8*(1), 36–39.

Mittelmark, M. B., & Bauer, G. F., (2017) The meanings of salutogenesis. In M. B. Mittelmark, S. Sagy, M. Eriksson, G. F. Bauer, J. M. Pelican, B. Lindström, & G. S. Espnes (Eds.), *The handbook of salutogenesis* (pp. 7–14). Cham, Switzerland: Springer.

Morse, J. M. (2003). Principles of mixed methods and multimethod research design. In A. Tashakkori & C. Teddlie (Eds.), *Handbook of mixed methods in social and behavioral research* (pp. 189–208). Thousand Oaks, CA: Sage.

Morse, J. M. (2008). Deceptive simplicity. *Qualitative Health Research, 18*(10), 1311. https://doi.org/10.1177/1049732308322486

Murray, M., Murray, L., & Donnelly, M. (2016). Systematic review of interventions to improve the

psychological well-being of general practitioners. *BMC Family Practice*, *17*, 36. https://doi.org/10.1186/s12875-016-0431-1

Nastasi, B. K., Hitchcock, J. H., & Brown, L. M. (2010). An inclusive framework for conceptualizing mixed methods design typologies: Moving toward fully integrated synergistic research models. In A. Tashakkori & C. Teddlie (Eds.), *Handbook of Mixed Methods in Social & Behavioral Research* (2nd ed.) (pp. 305–338). Thousand Oaks, CA: Sage. https://doi.org/10.4135/9781506335193

New South Wales Government (2017). *Protecting our paramedics* [Media release]. Retrieved from https://www.nsw.gov.au/your-government/the-premier/media-releases-from-the-premier/protecting-our-paramedics/

Nielsen, M. S., & Jørgensen, F. (2016). Meaning creation and employee engagement in home health caregivers. *Scandinavian Journal of Caring Sciences*, *30*(1), 57–64. https://doi.org/10.1111/scs.12221

Novotney, A. (2009). Strong in mind and body: With help from psychologists, a new U.S. Army program puts psychological well-being on par with physical fitness. *Monitor on Psychology, 40*(11), 40. Retrieved from http://www.apa.org/monitor/2009/12/army-program.aspx

O'Brien, K., & Lomas, T. (2017) Developing a growth mindset through outdoor personal development: Can an intervention underpinned by psychology increase the impact of an outdoor learning course for young people? *Journal of Adventure Education and Outdoor Learning, 17*(2), 133–147. https://doi.org/10.1080/14729679.2016.1232199

O'Cathain, A., Murphy, E., & Nicholl, J. (2008). The quality of mixed methods studies in health services research. *Journal of Health Services Research & Policy*, *13*(2), 92–98. https://doi.org/10.1258/jhsrp.2007.007074

O'Connor, R. C., & Nock, M. K. (2014). The psychology of suicidal behaviour. *Lancet Psychiatry, 1*(1), 73–85. https://doi.org/10.1016/S2215-0366(14)70222-6

Oldham, G. R., & Hackman, J. R. (1981). Relationships between organizational structure and employee reactions: Comparing alternative frameworks. *Administrative science quarterly, 26*(1), 66–83. https://doi.org/10.2307/2392600

O'Neill, O. A., & Rothbard, N. P. (2015). Is love all you need? The effects of emotional culture, suppression, and work–family conflict on firefighter risk-taking and health. *Academy of Management*, *60*(1), 78–108.

Ostrom, E., Parks, R. B., & Whitaker, G. P. (1973). Do we really want to consolidate urban police forces? A reappraisal of some old assertions. *Public Administration Review*, 423–432.

Page, K. M., & Vella-Brodrick, D. A. (2012). From nonmalfeasance to beneficence: Key criteria, approaches, and ethical issues relating to positive employee health and well-being. In N.

Reilly, M. Sirgy, & C Gorman (Eds.), *Work and quality of life: Ethical practices in organizations* (pp. 463–489). Dordrecht, Netherlands: Springer.

Pallant, J. (2011). SPSS survival manual. *A step by step guide to data analysis using the SPSS program* (4th ed.). Berkshire, UK: Allen & Unwin.

Park, N., Peterson, C., & Seligman, M. E. P. (2004). Strengths of character and well-being. *Journal of Social and Clinical Psychology*, *23*(5), 603–619. https://doi.org/10.1521/jscp.23.5.603.50748

Parks, A. C., & Biswas-Diener, R. (2013). Positive interventions: Past, present and future. In T. B. Kashdan & J. Ciarrochi (Eds.), *Mindfulness, acceptance, and positive psychology: The seven foundations of well-being* (pp. 140–165). Oakland, CA: Context Press/ New Harbinger.

Paton, D., & Burke, K. J. (2007). Personal and organizational predictors of posttraumatic adaptation and growth in police officers. *Australasian Journal of Disaster and Trauma Studies*, *1*, 1–12.

Patterson, P. D., Weaver, M. D., Weaver, S. J., Rosen, M. A., Todorova, G., Weingart, L. R., ... & Salas, E. (2012). Measuring teamwork and conflict among emergency medical technician personnel. *Prehospital Emergency Care, 16(*1), 98–108. https://doi.org/10.3109/10903127.2011.616260

Peterson, U., Demerouti, E., Bergström, G., Samuelsson, M., Åsberg, M., & Nygren, Å. (2008). Burnout and physical and mental health among Swedish healthcare workers. *Journal of advanced nursing*, *62*(1), 84-95. https://doi.org/10.1111/j.1365-2648.2007.04580.x

Peterson, C., & Seligman, M. E. P. (2004). *Character strengths and virtues: A handbook and classification*. New York, NY: Oxford University Press.

Petrie, K., & Brook, R. (1992). Sense of coherence, self-esteem, depression and hopelessness as correlates of reattempting suicide. *British Journal of Clinical Psychology*, *31*(3), 293–300. https://doi.org/10.1111/j.2044-8260.1992.tb00996.x

Petrou, P., Demerouti, E., & Peeters, M. (2012). Crafting a job on a daily basis: Contextual correlates and the link to work engagement. *Journal of Organizational Behavior 33*(8), 1120–1141. https://doi.org/10.1002/job.1783

Pietrantoni, L., & Prati, G. (2008). Resilience among first responders. *African Health Sciences*, *8*(Suppl 1), S14–S20.

Pinker, S. (2003). *The blank slate: The modern denial of human nature.* New York, NY: Penguin.

Plano Clark, V. L., & Creswell, J. W. (2008). *The mixed methods reader.* Thousand Oaks, CA: Sage

Prati, G., & Pietrantoni, L. (2009). Optimism, social support, and coping strategies as factors contributing to posttraumatic growth: A meta-analysis. *Journal of Loss & Trauma*, *14*(5), 364–388. https://doi.org/10.1080/15325020902724271

Pratt, M. G., & Ashforth, B. E. (2003). Fostering meaningfulness in working and at work. In K. S. Cameron, J. E. Dutton, & R. E. Quinn (Eds.), *Positive organizational scholarship: Foundations of a new discipline* (pp. 309–327). San Francisco, CA: Berrett-Koehler.

Pressman, S. D., & Cohen, S. (2005). Does positive affect influence health? *Psychological Bulletin*, *131*(6), 925–971. https://doi.org/10.1037/0033-2909.131.6.925

Prilleltensky, I. (2012). Wellness as fairness. *American Journal of Community Psychology*, *49*(1–2), 1–21. https://doi.org/10.1007/s10464-011-9448-8

Provencher, H. L., & Keyes, C. L. M. (2011). Complete mental health recovery: bridging mental illness with positive mental health. *Journal of Public Mental Health*, *10*(1), 57–69.

Psarra, E., & Kleftaras, G. (2013). Adaptation to physical disabilities: The role of meaning in life and depression. *The European Journal of Counselling Psychology, 2*(1), 79–99. https://doi.org/10.5964/ejcop.v2i1.7

Pūtaiora Writing Group. (n.d.). *Te ara tika - guidelines for Māori research ethics: A framework for researchers and ethics committee members* [Booklet]. Health Research Council of New Zealand. Retrieved from http://www.hrc.govt.nz/news-and-publications/publications/te-ara-tika-guidelines-m%C4%81ori-research-ethics-framework-researcher

Randall, R. J., Griffiths, A., & Cox, T. (2005). Evaluating organisational stress-management interventions using adapted study designs. *European Journal of Work and Organizational Psychology, 14*(1), 23–41. https://doi.org/10.1080/13594320444000209

Randall, R., & Nielsen, K. (2012). Does the intervention fit? An explanatory model of intervention success and failure in complex organizational environments. In C. Biron, M. Karanika-Murray, & C. Cooper (Eds.), *Improving organizational interventions for stress and well-being* (pp. 120–134). London, UK: Routledge.

Regehr, C., & Bober, T. (2005). *In the line of fire: Trauma in the emergency services*. Oxford, UK: Oxford University Press.

Reivich, K. J., Seligman, M. E. P., & McBride, S. (2011). Master resilience training in the U.S. Army. *The American Psychologist*, *66*(1), 25–34. https://doi.org/10.1037/a0021897

Reynolds, C. A., & Wagner, S. L. (2007). Stress and first responders: The need for a multidimensional approach to stress management. *International Journal of Disability Management*, *2*(2), 27–36. https://doi.org/10.1375/jdmr.2.2.27

Richman, W. L., Kiesler, S., Weisband, S., & Drasgow, F. (1999). A meta-analytic study of social desirability distortion in computer-administered questionnaires, traditional

questionnaires, and interviews. *The Journal of Applied Psychology*, *84*(5), 754–775. https://doi.org/10.1037/0021-9010.84.5.754

Roberts, P., & Priest, H. (2006). Reliability and validity in research. *Nursing Standard: Official Newspaper of the Royal College of Nursing*, *20*(44), 41–45. https://doi.org/10.7748/ns2006.07.20.44.41.c6560

Robertson, I. T., Cooper, C. L., Sarkar, M., & Curran, T. (2015). Resilience training in the workplace from 2003 to 2014: A systematic review. *Journal of Occupational and Organizational Psychology*, *88*, 533–562. https://doi.org/10.1111/joop.12120

Rodríguez-Carvajal, R., Moreno-Jiménez, B., Rivas-Hermosilla, S. de, Álvarez-Bejarano, A., & Sanz Vergel, A. I. (2010). Positive psychology at work: Mutual gains for individuals and organizations. *Revista de Psicología del Trabajo y de las Organizaciones*, *26*(3), 235–253.

Roepke, A. M., Jayawickreme, E., & Riffle, O. M. (2014). Meaning and health: A systematic review. *Applied Research in Quality of Life*, *9*(4), 1055–1079. http://doi.org/10.1007/s11482-013-9288-9

Rother, E. T. (2007). Systematic literature review X narrative review. *Acta Paulista de Enfermagem*, *20*(2), v–vi. https://doi.org/10.1590/S0103-21002007000200000

Rusk, R. D., & Waters, L. E. (2013). Tracing the size, reach, impact, and breadth of positive psychology. *The Journal of Positive Psychology, 8*(3), 207–221. https://doi.org/10.1080/17439760.2013.777766

Rutkow, L., Gable, L., & Links, J. M. (2011). Protecting the mental health of first responders: legal and ethical considerations. *The Journal of Law, Medicine & Ethics: A Journal of the American Society of Law, Medicine & Ethics, 39*(Suppl 1), 56–59. https://doi.org/10.1111/j.1748-720X.2011.00567.x

Ryan, L., & Golden, A. (2006). 'Tick the box please': A reflexive approach to doing quantitative social research. *Sociology. 40*(6),1191–1200. https://doi.org/10.1177/0038038506072287

Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *The American Psychologist*, *55*(1), 68–78. https://doi.org/10.1037110003-066X.55.1.68

Ryan, R. M., & Deci, E. L. (2017). *Self-determination theory: Basic psychological needs in motivation, development, and wellness*. New York, NY: Guilford.

Ryff, C. D. (2014). Psychological well-being revisited: advances in the science and practice of eudaimonia. *Psychotherapy and Psychosomatics*, *83*(1), 10–28.

Sackett, D. L., Rosenberg, W. M., Gray, J. A., Haynes, B. R., & Richardson, W. S. (1996). Evidence based medicine: what it is and what it isn't. *BMJ*, *312*, 71. https://doi.org/10.1136/bmj.312.7023.71

Salanova, M., Llorens, S., Cifre, E., & Martínez, I. M. (2012). We need a hero! Toward a validation of the healthy and resilient organization (HERO) model. *Group & Organization Management*, *37*(6), 785–822. https://doi.org/10.1177/1059601112470405

Sattler, D. N., Boyd, B., & Kirsch, J. (2014). Trauma-exposed firefighters: relationships among posttraumatic growth, post-traumatic stress, resource availability, coping and critical incident stress debriefing experience. *Stress and Health: Journal of the International Society for the Investigation of Stress*, *30*(5), 356–365. https://doi.org/10.1002/smi.2608

Schabram, K., & Maitlis, S. (2017). Negotiating the challenges of a calling: Emotion and enacted sensemaking in animal shelter work. *Academy of Management Journal. Academy of Management*, *60*(2), 584–609.

Schmidt, C. E., McNulty, B., Howard-Baptiste, S., & Harvey, J. (2017). Perspectives about how to define and use collegiality in higher education. *International Journal of Kinesiology in Higher Education, 1(*1), 28–34. https://doi.org/10.1080/24711616.2016.1277674

Schumm, J. A., Briggs-Phillips, M., & Hobfoll, S. E. (2006). Cumulative interpersonal traumas and social support as risk and resiliency factors in predicting PTSD and depression among inner-city women. *Journal of Traumatic Stress*, *19*(6), 825–836. https://doi.org/10.1002/jts.20159

Schaubroeck, J. M., Riolli, L. T., Peng, A. C., & Spain, E. S. (2011). Resilience to traumatic exposure among soldiers deployed in combat. *Journal of Occupational Health Psychology*, *16*(1), 18–37. https://doi.org/10.1037/a0021006

Schaufeli, W. B., & Bakker, A. B. (2004). Job demands, job resources, and their relationship with burnout and engagement: A multi-sample study. *Journal of Organizational Behavior*, *25*(3), 293–315. https://doi.org/10.1002/job.248

Schaufeli, W. B., & Taris, T. W. (2014). A critical review of the job demands-resources model: Implications for improving work and health. In G. F. Bauer & O. Hämmig (Eds.), *Bridging occupational, organizational and public health: A transdisciplinary approach* (pp. 43–68). Dordrecht, Netherlands: Springer.

Scully, P. J. (2011). Taking care of staff: A comprehensive model of support for paramedics and emergency medical dispatchers. *Traumatology*, *17*(4), 35–42. https://doi.org/10.1177/1534765611430129

Seligman, M. E. P. (2002). *Authentic happiness: Using the new positive psychology to realize your potential for lasting fulfillment*. New York, NY: Simon and Schuster.

Seligman, M. E. P. (2012). *Flourish: A visionary new understanding of happiness and well-being*. New York, NY: Simon and Schuster.

Seligman, M. E. P., & Csikszentmihalyi, M. (2000). Special issue on happiness, excellence, and optimal human functioning. *The American Psychologist*, *55*(1), 5–183.

Seligman, M. E. P., Rashid, T., & Parks, A. C. (2006). Positive psychotherapy. *The American Psychologist*, *61*(8), 774–788. https://doi.org/10.1037/0003-066X.61.8.774

Shaffer, T. J. (2010). A comparison of firefighters and police officers: the influence of gender and relationship status. *Adultspan Journal*, *9*(1), 36–49. https://doi.org/10.1002/j.2161-0029.2010.tb00070.x

Shakespeare-Finch, J. (2007). Building resilience in emergency service personnel through organisational structures. Paper presented at the 42nd annual Australian Psychological Society conference: Making an impact (pp. 362–365). Retrieved from https://eprints.qut.edu.au/12502/1/12502.pdf

Shakespeare-Finch, J., Gow, K., & Smith, S. (2005). Personality, coping and posttraumatic growth in emergency ambulance personnel. *Traumatology*, *11*(4), 325–334. https://doi.org/10.1177/153476560501100410

Shakespeare-Finch, J., & Scully, P. (2005). A multi-method evaluation of an Australian emergency service employee assistance program. *Employee Assistance Quarterly*, *19*(4), 71–91. https://doi.org/10.1300/J022v19n04_06

Shalin, D. N. (1986). Pragmatism and social interactionism. *American Sociological Review*, *51*(1), 9–29.

Sheldon, K. M., & Elliot, A. J. (1999). Goal striving, need satisfaction, and longitudinal well-being: the self-concordance model. *Journal of Personality and Social Psychology*, *76*(3), 482–497. https://doi.org/10.1037/0022-3514.76.3.482

Shochet, I., Shakespeare-Finch, J., Craig, C., Roos, C., Wurfl, A., Hoge, R., … Brough, P. (2011). The development and implementation of the promoting resilient officers (PRO) program. *Traumatology*, *17*(4), 43–51. https://doi.org/10.1177/1534765611429080

Shultz, J. M., & Forbes, D. (2014). Psychological first aid: Rapid proliferation and the search for evidence. *Disaster Health*, *2*(1), 3–12. https://doi.org/10.4161/dish.26006

Sinclair, S., Bryan, C. J., & Bryan, A. O. (2016). Meaning in life as a protective factor for the emergence of suicide ideation that leads to suicide attempts among military personnel and veterans with elevated PTSD and depression. *International Journal of Cognitive Therapy*, *9*(1), 87-98. https://doi.org/10.1521/ijct.2016.9.1.87

Sin, N., & Lyubomirsky, S. (2009). Enhancing well-being and alleviating depressive symptoms with positive psychology interventions: A practice-friendly meta-analysis. *Journal of Clinical Psychology, 65*(5), 467-487. https://doi.org/10.1002/jclp.20593

Slade, M., Oades, L., & Jarden, A. (2017). *Wellbeing, recovery and mental health*. Cambridge, UK: Cambridge University Press.

Slemp, G. R., Kern, M. L., & Vella-Brodrick, D. A. (2015). Workplace well-being: The role of job

crafting and autonomy support. *Psychology of Well-Being*, *5*(7). https://doi.org/10.1186/s13612-015-0034-y

Slemp, G. R., & Vella-Brodrick, D. A. (2014). Optimising employee mental health: The relationship between intrinsic need satisfaction, job crafting, and employee well-being. *Journal of Happiness Studies*, *15*(4), 957–977. https://doi.org/10.1007/s10902-013-9458-3

Smith, J. A. (Ed.). (2015). *Qualitative psychology: A practical guide to research methods* (2nd ed.). Thousand Oaks, CA: Sage.

Sonnentag, S., Niessen, C., & Neff, A. (2012). Recovery: Nonwork experiences that promote positive states. In K. S. Cameron (Ed.), *The Oxford handbook of positive organizational scholarship*, (pp. 867–881). Oxford, UK: Oxford University Press.

Sosik, J. J., & Godshalk, V. M. (2000). Leadership styles, mentoring functions received, and job-related stress: A conceptual model and preliminary study. *Journal of Organizational Behavior*, *21*(4), 365–390. https://doi.org/10.1002/(SICI)1099-1379(200006)21:4<365::AID-JOB14>3.0.CO;2-H

Spence, G. (2015). Workplace wellbeing programs: if you build it they may NOT come...because it's not what they really need! *International Journal of Wellbeing*, *5*(2), 109–124. https://doi.org/10.5502/ijw.v5i2.7

Stamper, C. L., & Masterson, S. S. (2002). Insider or outsider? How employee perceptions of insider status affect their work behavior. *Journal of Organizational Behavior*, *23*(8), 875–894. https://doi.org/10.1002/job.175

Stanley, I. H., Hom, M. A., & Joiner, T. E. (2016). A systematic review of suicidal thoughts and behaviors among police officers, firefighters, EMTs, and paramedics. *Clinical Psychology Review*, *44*, 25–44. https://doi.org/10.1016/j.cpr.2015.12.002

Steger, M. F. (2009). Meaning in life. In S. J. Lopez & C. R. Snyder (Eds.). Oxford handbook of positive psychology (2nd ed.) (pp. 679–687). New York, NY, US: Oxford University Press.

Steger, M. F., Dik, B. J., & Duffy, R. D. (2012). Measuring meaningful work: The work and meaning inventory (WAMI). *Journal of Career Assessment*, *20*(3), 322–337. https://doi.org/10.1177/1069072711436160

Steger, M. F., Frazier, P., Oishi, S., & Kaler, M. (2006). The meaning in life questionnaire: Assessing the presence of and search for meaning in life. *Journal of Counseling Psychology*, *53*(1), 80.

Steger, M. F., Oishi, S., & Kashdan, T. B. (2009). Meaning in life across the life span: Levels and correlates of meaning in life from emerging adulthood to older adulthood. *The Journal of Positive Psychology*, *4*(1), 43–52. https://doi.org/10.1080/17439760802303127

Steger, M. F., Sheline, K., Merriman, L., & Kashdan, T. B. (2013). Using the science of meaning

to invigorate values-congruent, purpose-driven action. In T. B. Kashdan & J. Ciarrochi (Eds.), *Mindfulness, acceptance, and positive psychology: The seven foundations of well-being* (pp. 240–266). Oakland, CA: New Harbinger.

Stephens, C., & Long, N. (1999). post-traumatic stress disorder in the new zealand police: The moderating role of social support following traumatic stress. *Anxiety, Stress, and Coping*, *12*(3), 247–264. https://doi.org/10.1080/10615809908250477

Stern, P.N. & Porr, C.J. (2011). *Essentials of Accessible Grounded Theory*. Walnut Creek, CA: Left Coast Press.

Sterud, T., Ekeberg, Ø., & Hem, E. (2006). Health status in the ambulance services: a systematic review. *BMC Health Services Research*, *6*, 82. https://doi.org/10.1186/1472-6963-6-82

Stinchcomb, J. B. (2004). Searching for stress in all the wrong places: Combating chronic organizational stressors in policing. *Police Practice & Research: An International Journal*, *5*(3), 259–277. https://doi.org/10.1080/156142604200227594

Strauss, A., & Corbin, J. (1990). *Basics of grounded theory methods.* Beverly Hills (2nd ed.). CA: Sage.

Tabachnick, B. G., & Fidell, L. S. (2007). *Using multivariate statistics* (5th ed.). Boston, MA: Pearson/Allyn & Bacon

Tafvelin, S., Armelius, K., & Westerberg, K. (2011). Toward understanding the direct and indirect effects of transformational leadership on well-being: A longitudinal study. *Journal of Leadership & Organizational Studies*, *18*(4), 480–492. https://doi.org/10.1177/1548051811418342

Taku, K., Cann, A., Calhoun, L. G., & Tedeschi, R. G. (2008). The factor structure of the posttraumatic growth inventory: a comparison of five models using confirmatory factor analysis. *Journal of Traumatic Stress*, *21*(2), 158–164. https://doi.org/10.1002/jts.20305

Tan, G., Dao, T. K., Farmer, L., Sutherland, R. J., & Gevirtz, R. (2011). Heart rate variability (HRV) and post-traumatic stress disorder (PTSD): A pilot study. *Applied Psychophysiology and Biofeedback*, *36*(1), 27–35. https://doi.org/10.1007/s10484-010-9141-y

Tashakkori, A., & Teddlie, C. (Eds.). (2003). *Handbook on mixed methods in the social and behavioral sciences.* Thousand Oaks, CA: Sage.

Tashakkori, A., & Teddlie, C. (Eds,). (2010). *Sage handbook of mixed methods in social & behavioral research* (2nd ed.). Thousand Oaks, CA: Sage. https://doi.org/10.4135/9781506335193

Taylor, E. (2001). Positive psychology and humanistic psychology: A reply to Seligman. *Journal of Humanistic Psychology*, *41*(1), 13–29. https://doi.org/10.1177/0022167801411003

Teddlie, C., & Tashakkori, A. (2009). *Foundations of mixed methods research: Integrating quantitative and qualitative approaches in the social and behavioral sciences*. Thousand Oaks, CA: Sage.

Tedeschi, R. G., & Calhoun, L. G. (1996). The posttraumatic growth inventory: Measuring the positive legacy of trauma. *Journal of Traumatic Stress, 9*(3), 455–472. https://doi.org/10.1002/jts.2490090305

Tedeschi, R. G., & Calhoun, L. G. (2004). Posttraumatic growth: Conceptual foundations and empirical evidence. *Psychological Inquiry*, *15*(1), 1–18. https://doi.org/10.1207/s15327965pli1501_01

The Evolutionary Institute. (2014). *Training and assessment manual for PROSOCIAL group facilitators*. Sydney, Australia: Author.

Thoits, P. (2012). Role-identity salience, purpose and meaning in life, and well-being among volunteers. *Social Psychology Quarterly*, *75*(4), 360–384. https://doi.org/10.1177/0190272512459662

Thompson, J. [James]. (1993). Psychological impact of body recovery duties. *Journal of the Royal Society of Medicine*, *86*(11), 628–629.

Thompson, J. [Jeffery]. A., & Bunderson, J. S. (2003). Violations of principle: Ideological currency in the psychological contract. *The Academy of Management Review, 28*(4), 571–586. https://doi.org/10.2307/30040748

Thorburn, M. (2017). Reconstructing Dewey: Habit, embodiment and health and well-being. *British Journal of Educational Studies*, 1–13. https://doi.org/10.1080/00071005.2017.1377830

Tims, M., Bakker, A. B., & Derks, D. (2013). The impact of job crafting on job demands, job resources, and well-being. *Journal of Occupational Health Psychology*, *18*(2), 230–240. https://doi.org/10.1037/a0032141

Tims, M., Bakker, A. B., Derks, D., & van Rhenen, W. (2013). Job crafting at the team and individual level: Implications for work engagement and performance. *Group & Organization Management*, *38*(4), 427–454. https://doi.org/10.1177/1059601113492421

Treadgold, R. (1999). Transcendent vocations: Their relationship to stress, depression, and clarity of self-concept. *Journal of Humanistic Psychology*, *39*(1), 81–105. https://doi.org/10.1177/0022167899391010

Tripathy, J. P. (2013). Secondary data analysis: Ethical issues and challenges. *Iranian Journal of Public Health*, *42*(12), 1478–1479.

Triplett, K. N., Tedeschi, R. G., Cann, A., Calhoun, L. G., & Reeve, C. L. (2012). Posttraumatic growth, meaning in life, and life satisfaction in response to trauma. *Psychological Trauma:*

Theory, Research, Practice and Policy, *4*(4), 400–410. https://doi.org/10.1037/a0024204

Tuckey, M. R., & Hayward, R. (2011). Global and occupation-specific emotional resources as buffers against the emotional demands of fire-fighting. *Applied Psychology*, *60*(1), 1–23. https://doi.org/10.1111/j.1464-0597.2010.00424.x

Tugade, M. M., & Fredrickson, B. L. (2004). Resilient individuals use positive emotions to bounce back from negative emotional experiences. *Journal of Personality and Social Psychology*, *86*(2), 320–333. https://doi.org/10.1037/0022-3514.86.2.320

Uchida, Y., & Ogihara, Y. (2012). Personal or interpersonal construal of happiness: A cultural psychological perspective. *International Journal of Wellbeing*, *2*(4), 354–369. https://doi.org/10.5502/ijw.v2.i4.5

Ungar, M., Brown, M., Liebenberg, L., Othman, R., Kwong, W. M., Armstrong, M., & Gilgun, J. (2007). Unique pathways to resilience across cultures. *Adolescence*, *42*(166), 287–310.

van Wingerden, J., Bakker, A. B., & Derks, D. (2017). Fostering employee well-being via a job crafting intervention. *Journal of Vocational Behavior*, *100*, 164–174. https://doi.org/10.1016/j.jvb.2017.03.008

Varker, T., Metcalf, O., Forbes, D., Chisolm, K., Harvey, S., Van Hooff, M., ... & Phelps, A. J. (2018). Research into Australian emergency services personnel mental health and wellbeing: An evidence map. *Australian & New Zealand Journal of Psychiatry, 52*(2), 129–148. https://doi.org/10.1177/0004867417738054

Vilardaga, R., Luoma, J. B., Hayes, S. C., Pistorello, J., Levin, M. E., Hildebrandt, M. J., ... & Bond, F. (2011). Burnout among the addiction counseling workforce: The differential roles of mindfulness and values-based processes and work-site factors. *Journal of Substance Abuse Treatment*, *40*(4), 323–335. https://doi.org/10.1016/j.jsat.2010.11.015

Violanti, J. M., Andrew, M. E., Mnatsakanova, A., Hartley, T. A., & Fekedulegn, D. (2016). Correlates of hopelessness in the high suicide risk police occupation. *Police Practice and Research, 17*(5), 408–419. https://doi.org/10.1080/15614263.2015.1015125

Volkert, J., Schulz, H., Brütt, A. L., & Andreas, S. (2014). Meaning in life: Relationship to clinical diagnosis and psychotherapy outcome. *Journal of Clinical Psychology, 70*(6), 528–535. https://doi.org/10.1002/jclp.22053

Vogt, D., Erbes, C. R., & Polusny, M. A. (2017). Role of social context in posttraumatic stress disorder (PTSD). *Current Opinion in Psychology*, *14*, 138-142. https://doi.org/10.1016/j.copsyc.2017.01.006

Wagner, S. L., McFee, J. A., & Martin, C. A. (2010). Mental health implications of fire service membership. *Traumatology*, *16*(2), 26–32. https://doi.org/10.1177/1534765610362803

Wagner, A. C., Monson, C. M., & Hart, T. L. (2016). Understanding social factors in the context of trauma: Implications for measurement and intervention. *Journal of Aggression,*

Maltreatment & Trauma, *25*(8), 831-853. http://dx.doi.org/10.1080/10926771.2016.1152341

Walker, S., Read, S., & Priest, H. (2013). Use of reflexivity in a mixed methods study. *Nurse Researcher, 20*(3), 38–43. https://doi.org/10.7748/nr2013.01.20.3.38.c9496

Walser, R. D., & Westrup, D. (2007). *Acceptance and commitment therapy for the treatment of post-traumatic stress disorder and trauma-related problems: A practitioner's guide to using mindfulness and acceptance strategies*. Oakland: CA New Harbinger.

Walumbwa, F. O., Peterson, S. J., Avolio, B. J., & Hartnell, C. A. (2010). An investigation of the relationships among leader and follower psychological capital, service climate, and job performance. *Personnel Psychology*, *63*(4), 937–963. https://doi.org/10.1111/j.1744-6570.2010.01193.x

Ward, K. (2016). *Bargaining and balancing life with CPAP. A grounded theory.* Unpublished manuscript, Faculty of Medical Sciences, The University of Auckland, New Zealand.

Ward, K. (2017). *Bargaining and balancing life with CPAP. A grounded theory* [Doctoral dissertation]. University of Auckland. Retrieved from https://researchspace.auckland.ac.nz/handle/2292/28660

Ward, K., Gott, M., & Hoare, K. (2017a). Becoming a team: Findings from a grounded theory study about living with CPAP. *Collegian, 25*(1), 81–88. https://doi.org/10.1016/j.colegn.2017.01.002

Ward, K., Gott, M., & Hoare, K. (2017b). Making choices about CPAP: Findings from a grounded theory study about living with CPAP. *Collegian*, *24*(4), 371–379. https://doi.org/10.1016/j.colegn.2016.08.002

Ward, S. J., & King, L. A. (2017). Work and the good life: How work contributes to meaning in life. *Research in Organizational Behavior*, *37*, 59–82. https://doi.org/10.1016/j.riob.2017.10.001

Warr, P. (2002). The study of well-being, behaviour and attitudes. In P. Warr (Ed.), *Psychology at Work* (5th ed.) (pp. 1–25). London, UK: Penguin.

Waterman, A. S. (2013). The humanistic psychology-positive psychology divide: Contrasts in philosophical foundations. *The American Psychologist*, *68*(3), 124–133. https://doi.org/10.1037/a0032168

Waters, J. A., & Ussery, W. (2007). Police stress: History, contributing factors, symptoms, and interventions. *Policing: An International Journal of Police Strategies & Management*, *30*(2), 169–188. https://doi.org/10.1108/13639510710753199

Weber, M. (1958). *The protestant ethic and the spirit of capitalism* (T. Parsons, Trans.). New York, NY: Charles Scribner & Sons.

Weinstein, N. D., Marcus, S. E., & Moser, R. P. (2005). Smokers' unrealistic optimism about

their risk. *Tobacco Control*, *14*(1), 55–59. https://doi.org/10.1136/tc.2004.008375

Wersebe, H., Lieb, R., Meyer, A. H., Hofer, P., & Gloster, A. T. (2018). The link between stress, well-being, and psychological flexibility during an Acceptance and Commitment Therapy self-help intervention. *International Journal of Clinical and Health Psychology*, *18*(1), 60–68. https://doi.org/10.1016/j.ijchp.2017.09.002

Westerhof, E.T., Bohlmeijer, E. T., van Beljouw, I. M., & Pot, A. M. (2010). Improvement in personal meaning mediates the effects of a life review intervention on depressive symptoms in a randomized controlled trial. *The Gerontologist, 50*(4), 541–549. https://doi.org/10.1093/geront/gnp168

Western Australia Parliament. (2012). *The toll of trauma on Western Australian emergency staff and volunteers* [Government report]. Community Development & Justice Standing Committee. Retrieved from http://www.parliament.wa.gov.au/parliament/commit.nsf/(Report+Lookup+by+Com+ID)/F2C31700C3F0C38A48257A8600065F4D/$file/CDJSC-Toll+of+Trauma-+Final.pdf

Wilkinson, R. G. (2005). *The impact of inequality: How to make sick societies healthier*. New York, NY: The New Press.

Wilkinson, S. (1988). The role of reflexivity in feminist psychology. *Women's Studies International Forum, 11*(5), 493–502. https://doi.org/10.1016/0277-5395(88)90024-6

Wilson, K. G., Hayes, S. C., Gregg, J., & Zettle, R. D. (2001). Psychopathology and psychotherapy. In S. C. Hayes, D. Barnes-Holmes, & B. Roche (Eds.), *Relational frame theory: A post-Skinnerian account of human language and cognition* (pp. 211–237). New York, NY: Kluwer Academic/Plenum.

Wilson, D. S., Ostrom, E., & Cox, M. E. (2013). Generalizing the core design principles for the efficacy of groups. *Journal of Economic Behavior & Organization*, *90*, S21–S32. https://doi.org/10.1016/j.jebo.2012.12.010

Wong, P. T. P., & Roy, S. (2017). Critique of positive psychology and positive interventions. In N. J. L. Brown, T. Lomas, & F. J. Eiroa-Orosa (Eds.), *The Routledge international handbook of critical positive psychology*. London, UK: Routledge. https://www.routledgehandbooks.com/doi/10.4324/9781315659794.ch10

Wood, A. M., & Joseph, S. (2010). The absence of positive psychological (eudemonic) well-being as a risk factor for depression: A ten year cohort study. *Journal of Affective Disorders*, *122*(3), 213–217. https://doi.org/10.1016/j.jad.2009.06.032

World Health Organisation, (1948). *Constitution of the World Health Organization* [Document]. Retrieved from http://www.who.int/governance/eb/who_constitution_en.pdf

Wrzesniewski, A. (2011). Callings. In K. S. Cameron & G. M. Spreitzer (Eds.), *The Oxford*

handbook of positive organizational scholarship. Oxford, UK: Oxford University Press.

Wrzesniewski, A., & Dutton, J. E. (2001). Crafting a job: Revisioning employees as active crafters of their work. *Academy of Management Review 26*(2), 179–201.

Wrzesniewski, A., Dutton, J. E., & Debebe, G. (2003). Interpersonal sensemaking and the meaning of work. *Research in Organizational Behavior*, *25*, 93–135. https://doi.org/10.1016/S0191-3085(03)25003-6

Wrzesniewski, A., LoBuglio, N., Dutton, J. E., & Berg, J. M. (2013). Job crafting and cultivating positive meaning and identity in work. In A. Bakker (Ed.), *Advances in positive organizational psychology: Volume 1* (pp. 281–302). Bingley, UK: Emerald Group. https://doi.org/10.1108/S2046-410X(2013)0000001015

Wrzesniewski, A., McCauley, C., Rozin, P., & Schwartz, B. (1997). Jobs, careers, and callings: People's relations to their work. *Journal of Research in Personality*, *31*(1), 21–33. https://doi.org/10.1006/jrpe.1997.2162

Yoon, J. D., Daley, B. M., & Curlin, F. A. (2017). The association between a sense of calling and physician well-being: A national study of primary care physicians and psychiatrists. *Academic Psychiatry: The Journal of the American Association of Directors of Psychiatric Residency Training and the Association for Academic Psychiatry*, *41*(2), 167–173. https://doi.org/10.1007/s40596-016-0487-1

Zhai, Q., Willis, M., O'Shea, B., Zhai, Y., & Yang, Y. (2013). Big Five personality traits, job satisfaction and subjective wellbeing in China. *International Journal of Psychology*, *48*(6), 1099–1108. https://doi.org/10.1080/00207594.2012.732700

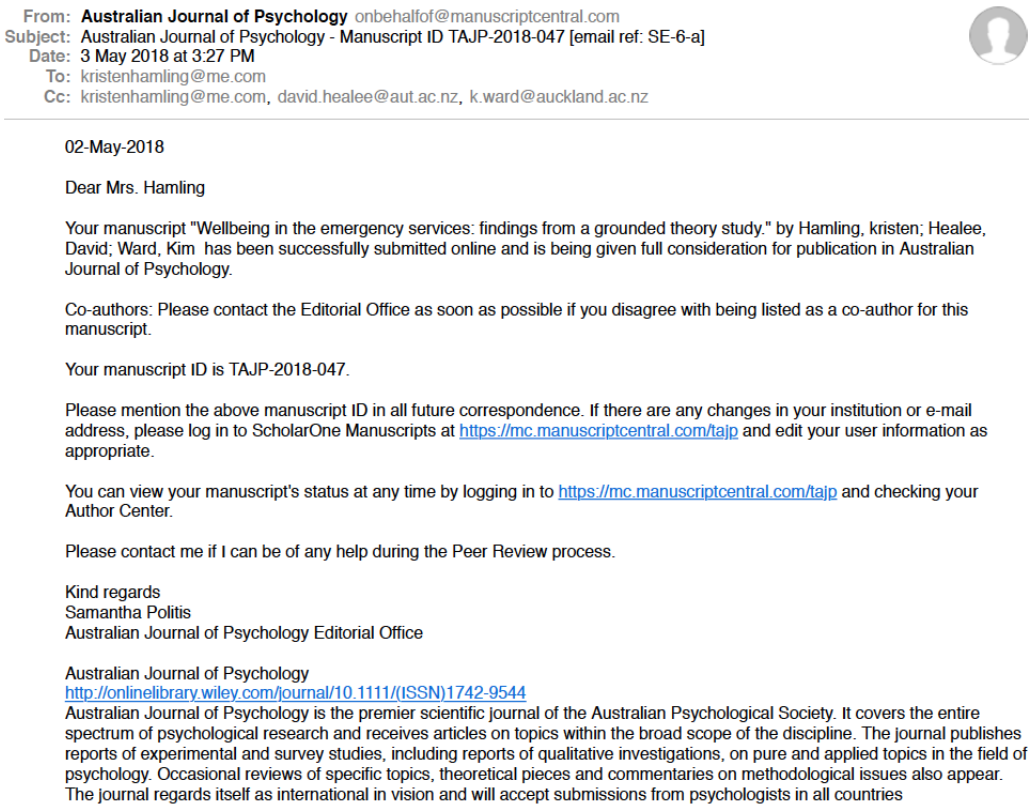
Zheng, C., Molineux, J., Mirshekary, S., & Scarparo, S. (2015). Developing individual and organisational work-life balance strategies to improve employee health and wellbeing. *Employee Relations Law Journal*, *37*(3), 354–379. https://doi.org/10.1108/ER-10-2013-0142

Zielezinski, M. (2016). *Dewey's experiential continuum infographic.* [Graphic]. Retrieved from https://www.slideshare.net/molly_bullock/deweys-experiential-continuum-infographic.

Appendix A. Article submitted to the Australian Journal of Psychology

The following email evidences submission of the article that presents findings for the **building a toolbox** category in the *heart of wellbeing* theory in chapter seven. The article was submitted to the Australian Journal of Psychology on 2 May 2018. The article details are:

> Hamling, K., Ward, K., & Heale, D. Wellbeing in the emergency services: findings from a grounded theory study. Submitted to the *Australian Journal of Psychology* on 2 May 2018.



From: **Australian Journal of Psychology** onbehalfof@manuscriptcentral.com
Subject: Australian Journal of Psychology - Manuscript ID TAJP-2018-047 [email ref: SE-6-a]
Date: 3 May 2018 at 3:27 PM
To: kristenhamling@me.com
Cc: kristenhamling@me.com, david.healee@aut.ac.nz, k.ward@auckland.ac.nz

02-May-2018

Dear Mrs. Hamling

Your manuscript "Wellbeing in the emergency services: findings from a grounded theory study." by Hamling, kristen; Healee, David; Ward, Kim has been successfully submitted online and is being given full consideration for publication in Australian Journal of Psychology.

Co-authors: Please contact the Editorial Office as soon as possible if you disagree with being listed as a co-author for this manuscript.

Your manuscript ID is TAJP-2018-047.

Please mention the above manuscript ID in all future correspondence. If there are any changes in your institution or e-mail address, please log in to ScholarOne Manuscripts at https://mc.manuscriptcentral.com/tajp and edit your user information as appropriate.

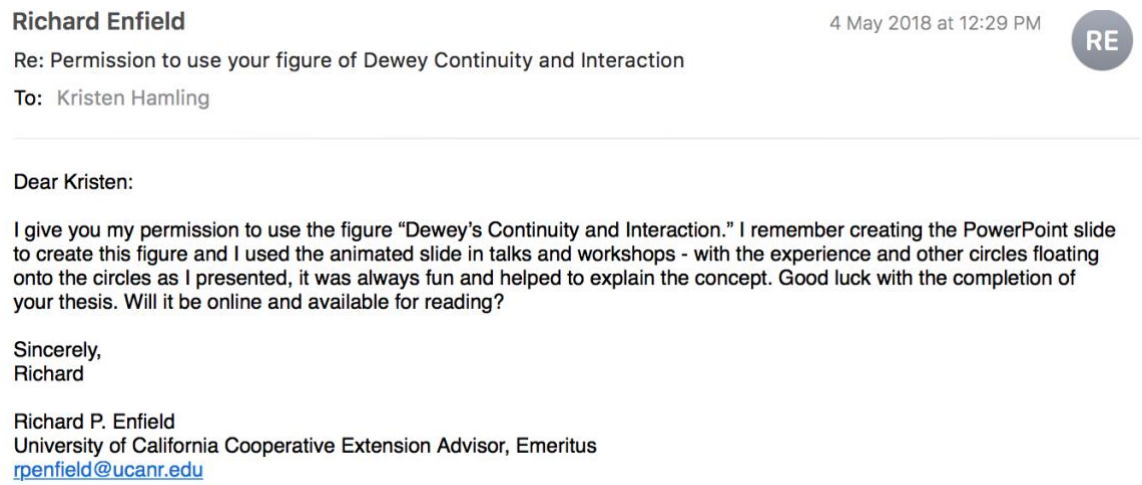
You can view your manuscript's status at any time by logging in to https://mc.manuscriptcentral.com/tajp and checking your Author Center.

Please contact me if I can be of any help during the Peer Review process.

Kind regards
Samantha Politis
Australian Journal of Psychology Editorial Office

Australian Journal of Psychology
http://onlinelibrary.wiley.com/journal/10.1111/(ISSN)1742-9544
Australian Journal of Psychology is the premier scientific journal of the Australian Psychological Society. It covers the entire spectrum of psychological research and receives articles on topics within the broad scope of the discipline. The journal publishes reports of experimental and survey studies, including reports of qualitative investigations, on pure and applied topics in the field of psychology. Occasional reviews of specific topics, theoretical pieces and commentaries on methodological issues also appear. The journal regards itself as international in vision and will accept submissions from psychologists in all countries

Appendix B. Permission to use Figure 3 and 4 in this thesis.



Richard Enfield 4 May 2018 at 12:29 PM

Re: Permission to use your figure of Dewey Continuity and Interaction

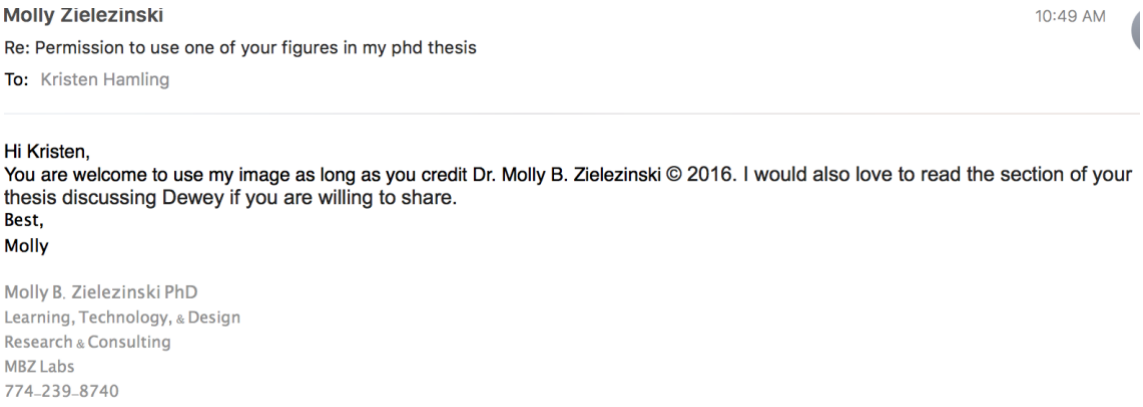
To: Kristen Hamling

Dear Kristen:

I give you my permission to use the figure "Dewey's Continuity and Interaction." I remember creating the PowerPoint slide to create this figure and I used the animated slide in talks and workshops - with the experience and other circles floating onto the circles as I presented, it was always fun and helped to explain the concept. Good luck with the completion of your thesis. Will it be online and available for reading?

Sincerely,
Richard

Richard P. Enfield
University of California Cooperative Extension Advisor, Emeritus
rpenfield@ucanr.edu



Molly Zielezinski 10:49 AM

Re: Permission to use one of your figures in my phd thesis

To: Kristen Hamling

Hi Kristen,
You are welcome to use my image as long as you credit Dr. Molly B. Zielezinski © 2016. I would also love to read the section of your thesis discussing Dewey if you are willing to share.
Best,
Molly

Molly B. Zielezinski PhD
Learning, Technology, & Design
Research & Consulting
MBZ Labs
774-239-8740

Appendix C. Evidence of rigour in the qualitative study

In chapter five the concept of reflexivity was introduced. Reflexivity enables researchers to reflect on how they collect, analyse, and interpret qualitative data (Berger, 2015). Chapter five outlined the methods used to promote reflexivity in the qualitative study. Appendix C contains further examples of reflexivity.

Appendix C.1. An example of personal reflexivity

Reflexive memoing provides an audit trail that enables the researcher to trace their interactions with participants and the data (Birks & Mills, 2015). Capturing these interactions allows the researcher to make "meaningful linkages between the personal and the emotional on the one hand, and the stringent intellectual operations to come on the other" (Lofland & Lofland, 1995, p. 15). Reflexive memos and diagrams can also be useful to present, in part, grounded theory findings (Ward et al., 2017b). Memos and diagrams can increase transparency in the research process because the reader can understand how a conclusion was reached (Birks & Mills, 2015).

Throughout the research process, I used memos formally (writing and storing these in NVivo), and informally (writing memos on note paper and recording thoughts on my iPhone) to enhance personal reflexivity. Consistent with grounded theory research methods, the contents of memos included my thoughts, feelings, insights and ideas that emerged as I engaged with the data (Birks & Mills, 2015). Memoing is fundamental to grounded theory methods (Lempert, 2007). Reflexive memoing gave me "the ability to recognise and extract from the data elements that have relevance for the emerging theory" (Birks & Mills, 2015, p. 181). In grounded theory, this process is referred to as theoretical sensitivity. I used reflexive memoing as a way to keep a check that I did not force the data into certain codes or categories based on my preconceived ideas. Reflexivity aided in my insight and awareness as I interacted with the data, enabling me to maintain focus and integrity throughout the grounded theory study. I used a memo to reflexively explore how I interpreted the qualitative data at the commencement the grounded theory study.

01 June 2016

Reflexive memo: Interpreting data like a psychologist and not a researcher.

I'm coding everything in line with what I already know, contextualising everything from a psychologist's viewpoint. I'm shaking my head as I'm transcribing, saying "stop relating participant's comments to existing theories". For example, when transcribing the first interview, I kept thinking, "this is an example of social exchange theory". I thought, "this participant isn't able to get a new pair of pants, and it means something to them—it's symbolic. They give their heart and soul in this job, and they can't get a new pair of pants, and they are resentful". And when coding the next transcript, I thought "this participant is

using their strengths—kindness and taking perspective—to deal with a difficult work colleague. Strengths seem to help the participant build a stronger team". And on and on it goes.

My perspective as a psychologist is influencing the way that I interpret the data when coding. This is tough. How do I stop doing this? All I seem to be doing in the coding is describing what's happening in the data and linking it to stuff I already know. Is this what Glaser and Strauss (1967) refer to as 'received theory'? I'm seeing the data through the lens of earlier ideas. I need to discuss this in supervision.

22 June 2016

Supervision outcomes.

When coding the transcript try asking the questions:

1. What is this data a study of?
2. Try to answer Glaser's (1978) classic question "what is happening in the data" (p.57).
3. What problems are the participants facing, and how do they resolve these problems?
4. How can I explain what is happening in the data, line by line, incident by incident, category by category?

Also, make sure to use gerunds when coding. This will take my focus away from the participant, and thinking about them from a psychologist's perspective, and onto "what is happening in the data" (Charmaz, 2014; p. 116). Gerunds are nouns formed from verbs by adding 'ing' and are help to identify action and sequence. For example, find becomes finding.

Stop thinking about the participants as clients, whom I am directly trying to help. Use the above questions and gerunds to engage with the data as a researcher.

Outcome: Re-code the first three interviews using the above questions and gerunds.

Appendix C.2. An example of functional reflexivity

After the reflexive interview, I recorded my thoughts in a memo. In the memo, I considered my assumptions and presuppositions as a psychologist. I reflected on how I could think about wellbeing from a broader perspective. This appendix provides an excerpt of the notes taken after the reflexive interview.

26 July - 1 September 2016
Reflexive interview: thoughts.

Working as a psychologist, teaching people about resilience and wellbeing, you become accustomed to 'telling' people what wellbeing is, and how they can achieve it. During the interview, a number of my assumptions have become apparent. It seems that I have entered this research believing that mental health 'experts' were responsible for first responders' wellbeing, and that "we" knew best about how to protect first responders from trauma. This assumption is evident in the title of the first publication in this thesis "Wellbeing and recovery in the emergency services: How do we care for those who care for us?".

In the interview, I was challenged to explore the concept of wellbeing away from my 'expert' preconceptions and beliefs. The interview has challenged me to consider what I think about wellbeing myself, and how this has influenced how I conducted this study.

Since the interview, I have started to think about how people come to experience wellbeing, who decides what wellbeing is, and what does wellbeing look like from other perspectives. I have looked for different conceptualisations of wellbeing within academia and practice. I read widely about wellbeing from a humanistic and sociological perspective, and also reviewed Maori ideas about health and wellbeing. For instance, the Te Whare Tapa Wha is a Maori model of wellbeing which underpins the practices of many health agencies in New Zealand. The model includes a much broader and holistic conceptualisation of wellbeing than had been familiar to me in the past. The process evolved my understanding of wellbeing and left me open to different perceptions of how humans experience wellbeing.

It's almost like the more complex wellbeing seems to be, the easier it is to let go of dominant models and really listen to the words, thoughts, and experiences of each participant.

Appendix C.3 Further evidence of rigour in the grounded theory study

When evaluating the completed grounded theory, some evaluative tactics are advised to 'test' the theory out (Charmaz, 2014). Along with memoing and diagramming, 'testing' the theory with colleagues and experts in the field of wellbeing offers a way to assess whether you have reached theoretical saturation (Ward, 2017). To evaluate the theory in line with Charmaz (2014) criteria, I intentionally, and unintentionally, 'tested' my theory out with a number of different people.

Throughout the theoretical sampling stages, I discussed the developing theory with participants. The participants gave feedback—directly and indirectly—on my developing concepts. When a concept resonated, participants were extremely vocal and provided rich descriptions and examples of how they enacted the experience in their lives. When a concept did not resonate, participants were able to articulate why and provide alternate explanations. Discussing the theory with participants, therefore, enabled me to refine concepts that made sense and discard ones that did not.

The final theory was discussed with a number of study participants. The feedback from participant 20 was, "wow, that is exactly what I have been through". Participant 19 stated, "you are very perceptive, this describes so many of my experiences perfectly". During the theoretical sampling stage, I presented the developing grounded theory to scholars in a grounded theory group that I attended on a monthly basis. During the discussion, one member said that the theory very much resonated with his experiences as a teacher. I decided to investigate whether the theory resonated with other teachers. I arranged to present my theory to teachers at a local primary school, whom I had been working with on another project (n = 10). Following the presentation one teacher said, "you've captured so much of what we deal with", and "it's really interesting to think about not only what meaning is but how we get meaning, I think this is really good". Several other teachers said that they wanted to keep learning about the theory, particularly how they could use the negotiating, navigating and evaluating process for themselves.

I was also invited to formally present the final theory in a three hour style workshop at a local peer support and advocacy organisation (www.balancewhanganui.org.nz) in September 2017. Employees of Balance Whanganui engaged in a discussion about the theory and how they felt that their experiences were comparable with first responders. Six out of seven people stated that the theory resonated with them. The seventh person said that the theory held no meaning or resonance for them, but they declined to elaborate on why this was the case.

A colleague invited me to conduct a workshop at the Ministry of Social Development in June 2018 about wellbeing in the context of the *heart of wellbeing* theory. A number of the workshop participants stated that the theory resonated with them. One participant said that she had been seeing a psychotherapist for three months but had not gained as much insight about her wellbeing as she had from the workshop. After the workshop she told me that "the penny

dropped” and that she finally understood what she needed to do to achieve her why.

The final theory was also discussed, incidentally, with a doctor, a nurse, and an allied health professional, all who work in hospitals. They all said that the theory related to their experiences working in hospitals. The doctor was particularly enthusiastic about the theory, which generated an hour-long conversation about how the theory related to his work experiences.

The conversations and feedback from study participants, experts in the field of wellbeing, and other professionals, therefore, determined that the theory met Charmaz’s (2014) criteria of credibility, originality, resonance and usefulness. Chapter six and seven presents findings from the current grounded theory study.

Appendix D. Ethical approval and methodology report for the Sovereign Wellbeing Index

Appendix D.1. AUTEC Approval for the Sovereign Wellbeing Index

AUT UNIVERSITY
TE WĀNANGA ARONUI O TAMAKI MAKAU RAU

MEMORANDUM

Auckland University of Technology Ethics Committee (AUTEC)

To: Grant Schofield
From: Rosemary Godbold, Executive Secretary, AUTEC
Date: 23 August 2012
Subject: Ethics Application Number **12/201 Sovereign Wellbeing Index**

Dear Grant

Thank you for providing written evidence as requested. I am pleased to advise that it satisfies the points raised by the Auckland University of Technology Ethics Committee (AUTEC) at their meeting on 13 August 2012 and I have approved your ethics application. This delegated approval is made in accordance with section 5.3.2.3 of AUTEC's *Applying for Ethics Approval: Guidelines and Procedures* and is subject to endorsement by AUTEC at its meeting on 10 September 2012.

Your ethics application is approved for a period of three years until 23 August 2015.

I advise that as part of the ethics approval process, you are required to submit the following to AUTEC:

- A brief annual progress report using form EA2, which is available online through http://www.aut.ac.nz/research/research-ethics/ethics. When necessary this form may also be used to request an extension of the approval at least one month prior to its expiry on 23 August 2015;
- A brief report on the status of the project using form EA3, which is available online through http://www.aut.ac.nz/research/research-ethics/ethics. This report is to be submitted either when the approval expires on 23 August 2015 or on completion of the project, whichever comes sooner;

It is a condition of approval that AUTEC is notified of any adverse events or if the research does not commence. AUTEC approval needs to be sought for any alteration to the research, including any alteration of or addition to any documents that are provided to participants. You are reminded that, as applicant, you are responsible for ensuring that research undertaken under this approval occurs within the parameters outlined in the approved application.

Please note that AUTEC grants ethical approval only. If you require management approval from an institution or organisation for your research, then you will need to make the arrangements necessary to obtain this.

To enable us to provide you with efficient service, we ask that you use the application number and study title in all written and verbal correspondence with us. Should you have any further enquiries regarding this matter, you are welcome to contact me by email at ethics@aut.ac.nz or by telephone on 921 9999 at extension 6902. Alternatively you may contact your AUTEC Faculty Representative (a list with contact details may be found in the Ethics Knowledge Base at http://www.aut.ac.nz/research/research-ethics/ethics).

On behalf of AUTEC and myself, I wish you success with your research and look forward to reading about it in your reports.

Yours sincerely

Dr Rosemary Godbold
Executive Secretary
Auckland University of Technology Ethics Committee

Cc: Julia McPhee

Appendix D.2. Permission to use the secondary data set.

SWI-1-2013 Data and IP Agreement

Edition 1.1

Prepared by Human Potential

Centre AUT University, 2013

Version Notes, SWI-1-2013 Data and IP Agreement

SWI-1-2013 Edition 1.0 (published 29-May-2013)

Suggested Citation:

Human Potential Centre. (2013). *Sovereign Wellbeing Index (1-2013): Data and IP Agreement* (Edition 1.1). Auckland: Auckland University of Technology.

Agreement concerning ownership of intellectual property, data, data access, sharing, and authorship.

Agreement

In order to consent to this agreement, you must send an e-mail to aaron.jarden@aut.ac.nz and kate.white@aut.ac.nz with the following text copied:

> "I, YOUR NAME, as a collaborator with the Sovereign Wellbeing Index agree to the terms, conditions, and responsibilities as outlined in the document titled 'Data and IP Agreement', which I confirm I have read, understood and discussed (if appropriate)".

In giving your consent, you agree to the flowing terms:

Data Access

- A selected relevant dataset (i.e., not the full dataset) will be provided to the above named person seeking to become a collaborator once the above email agreement text is obtained by the two named persons above (Aaron/Kate), and focus and authorship has been agreed (which guides which aspects of the dataset to share).
- Upon receipt of the email agreement, Aaron and/or Kate will then ask Lisa Mackay to prepare and provide the relevant required data to the collaborator.
- Should further individuals (secondary collaborators under the primary collaborator) require access to the data, they also need to supply the above email agreement text to the above two named persons (Aaron/Kate) before the Sovereign Wellbeing Index (SWI) data can be supplied by Lisa (they should also be supplied with a copy of this document).
- At no stage will a collaborator/s (or the Human Potential Centre - HPC - research team) have access to any of the main SWI's participant's e-mail address or personally identifiable information – this is anonymous.

Data Storage

- The HPC takes responsibility for the long-term storage of the raw and processed data from the SWI for a period of ten years after the completion of the data collection. Such data will be kept encrypted and in a locked storage facility at the HPC (at AUT).
- Collaborators are required to store the data in a secure location that only they can access.
- Collaborators are not permitted to make secondary or subsequent copies the data (i.e., collaborators should only have one copy of the data) in other locations (re-formatted data for the purpose of data analysis is permissible in the same location – e.g., recoding variables).

Authorship

- At least one member of the HPC research team (see "HPC Researchers" below) will be a named author on all publication(s) arising directly from the Sovereign Wellbeing Index.
- As close as possible, the intent of the Vancouver Protocol is to be followed (http://www.research.mq.edu.au/about/research_@_macquarie/policies,_procedures_and_conduct/documents/Vancouver.pdf). The Vancouver Protocol states that in order to be credited as an author, each and every author on a publication needs to have been involved in the: 1. Conception and design, or analysis and interpretation of data, AND 2. Drafting the article or revising it critically for important intellectual content AND 3. Final approval of the version to be published.
- All publication(s) require the acknowledgement (i.e., footnote, endnote) of all HPC researchers involved in the SWI – as listed below ("HPC Researchers").
- All publication(s) require the acknowledgement (i.e., footnote, endnote) of Sovereign as the project sponsor and that the project be titled "The Sovereign Wellbeing Index" in publications.
- Collaborators may publish articles related to topics that are approved by Aaron Jarden and Kate White. This requirement is to avoid duplication of analysis and published papers across collaborators and different research teams, and with the research of the HPC researchers. As such, we ask that collaborators first gain approval for the focus of their research utilising the data they require, and also submit their manuscript to Kate White and Aaron Jarden before submitting it to an academic journal.
- The Human Potential Centre research team reserves the right to make changes (additions/deletions) to the manuscript so that it fairly represents what the data say before submission for publication.
- No articles will be submitted for publication by a collaborator until the two main study papers are in press – the Methods paper (lead: Lisa Mackay) and Prevalence paper (lead: Aaron Jarden).

Intellectual Property

- You agree that any IP created in the course of the research shall be owned jointly by yourself and the Human Potential Centre (unless the Human Potential Centre waives such right).
- Although not anticipated, any patentable or commercially exploitable products arising from this research is the sole right of the Human Potential Centre (unless the Human Potential Centre waives such right).

Other Responsibilities

- All publications by collaborators will be rigorous, well written, and of high scientific merit.
- The data will not to be used for financial gain or publication without the written consent of the Human Potential Centre (via the two named persons above – Kate & Aaron - who will consult the Human Potential Centre research team on application).
- All media releases or media communications (including with regard to secondary analysis completed by the third party) will go through the HPC.

Disputes

- If any disagreement arises among collaborator's and the HPC researchers as to how this agreement should be interpreted and applied, Professor Grant Schofield will use his best endeavours, acting in good faith and consensus, to try to resolve any disagreements and

difficulties.

Variations

- This agreement may be amended with the agreement of the parties to it.
- Noted variations include:
  -
  -
  -
  -
  -

HPC Researchers

- Grant Schofield
- Aaron Jarden
- Lisa MacKay
- Kate White
- Scott Duncan
- Miki Williden
- Lucy Hone
- Julia McPhee

Appendix D.3. Methodology report for the Sovereign Wellbeing Index survey.

HUMAN POTENTIAL CENTRE
AN AUT UNIVERSITY RESEARCH CENTRE

SOVEREIGN WELLBEING INDEX

Wave 2, 2014

Methodology Report

Sovereign Wellbeing Index: Methodology Report Wave 2, 2014

Published in April 2015 by the Human Potential Centre, AUT University.

This document is available at www.mywellbeing.co.nz

Please refer to the publication, *Sovereign Wellbeing Index: 2015*, for key results from the 2014 survey.

Authors

This methodology report was written by Dr Lisa Mackay, Kate Prendergast, and Dr Aaron Jarden of the Human Potential Centre, AUT University.

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Introduction

This report outlines the technical specifications for the Sovereign Wellbeing Index (SWI) Wave 2 study, and is to be used alongside the data file and codebook. The methodology report is for readers who wish for more detail on the SWI, particularly about the study design, methods of recruitment, data collection, and data processing. There are four main sections:

Section 1 Study Overview

The Study Overview contains information regarding the study and contextual background information.

Section 2 SWI Survey

The SWI survey section contains information on the development of the survey and source instruments.

Section 3 Methods and Procedures

The Methods and Procedures section contains information on the survey design, sampling procedures, data collection procedures, and response rates for Wave 2 of the SWI.

Section 4 Data Processing

The Data Processing section contains information on the treatment of data, creation of derived variables, and data analysis methods.

Appendix A: Technical Details

Appendix B: Survey Items

Overview

Background: Traditionally, economic metrics have been used to benchmark a nation's progress, however such metrics inadequately capture important dimensions of social progress. Using wellbeing measures to complement traditional economic measures is gaining momentum. In 2012, a research team from the Human Potential Centre developed the Sovereign Wellbeing Index (SWI) to provide New Zealand's first comprehensive assessment of wellbeing. To continue to understand how New Zealanders are feeling and functioning in their lives, and areas to prioritise to improve wellbeing, ongoing assessment of wellbeing is needed.

Purpose: The purpose of the SWI, Round 2 is to, 1) provide an update on the prevalence and factors which contribute to wellbeing in New Zealand, and 2) determine how wellbeing has changed in New Zealand since the first wave in 2012.

Methods: A nationally representative sample of participants were recruited through the largest commercial database in New Zealand. In 2012, a total of 10,009 participants completed the SWI, Round 1. All individuals from 2012 were invited to take part in 2014, of which 4,435 returned (44%). Additional email invitations were sent to 53,628 panel members (that did not participate in 2012), of which 5,577 participated in 2014 (10%). In total, the 2014 survey comprised 10,012 participants.

The SWI, Round 2 comprised a web-based survey with a core wellbeing module and additional socio-demographic, health, and lifestyle questions. The wellbeing module was repeated from SWI, Round 1. Health and lifestyle questions underwent significant modification to provide a broader understanding of the relationships between health, lifestyle behaviours and wellbeing.

Conclusion: The SWI provides a broad and valid understanding of how well New Zealanders are feeling and functioning, what factors contribute to optimal wellbeing and whether this is the same for everyone.

Background

Until recently, developed countries have relied on economic metrics as a benchmark for national progress. However, important factors, which consider how people are feeling and functioning, are often not reflected in these economic measures (Diener, Oishi, & Lucas, 2015; Weijers & Jarden, 2013). In fact, the continual drive to improve national economic measures may negatively impact individuals' lives through longer working hours and rising levels of indebtedness (Michaelson, Abdallah, Steuer, Thompson, & Marks, 2009; Stoll, Michaelson, & Seaford, 2012). Recently, there has been growing momentum towards measuring wellbeing to identify what really matters to people.

Wellbeing is about understanding what is going right for individuals, groups within society, and for society as a whole. Over the last decade, the science of wellbeing has made considerable progress. Wellbeing is considered a broad, multi-dimensional construct incorporating measures of both feelings and functioning (Huppert et al., 2009). Components of wellbeing include being satisfied with life, having frequent positive emotions (like happiness) and fewer negative emotions (like sadness), being resilient, experiencing psychological growth and functioning well in the various areas of life that are important (Huppert & So, 2013). Although, traditional wellbeing measures relied on single-item questions of life satisfaction and happiness, newer measures have been developed to capture the multiple dimensions of wellbeing (Diener et al., 2010; Huppert & So, 2013).

Wellbeing research shows that individuals with high wellbeing not only lead healthier and happier lives, but also contribute positively to society (Diener, 2006). High wellbeing individuals tend to be more productive, more creative, have higher incomes, and achieve more. They have better health, use the health system less, and recover from illness faster. They are also more resilient when faced with challenges, volunteer to a greater extent, and are more generous with helping others in need

(Christakis & Fowler, 2009; Diener, 2000; Graham, 2009). Optimising wellbeing is, therefore, beneficial for individuals and society as a whole (Diener et al., 2015).

In 2012, the Sovereign Wellbeing Index was the first comprehensive national wellbeing survey to be implemented in New Zealand (Human Potential Centre, 2013; Jarden et al., 2013). Findings from the survey showed less than a quarter (24%) of New Zealanders had high levels of wellbeing (Hone, Jarden, & Schofield, 2014). Furthermore, when compared to 22 other European nations, New Zealand consistently ranked near the bottom on a broad range of personal and social wellbeing indicators (Human Potential Centre, 2013). These cross-sectional findings not only provide an important baseline measure of wellbeing in New Zealand, but they also indicate that improving wellbeing should be a focus in New Zealand. To continue to understand how New Zealanders are feeling and functioning in their lives, and areas to prioritise to improve wellbeing, ongoing assessment of wellbeing is needed.

Studying wellbeing longitudinally can help to determine where resources should be focussed, the people and places in New Zealand who are getting the most out of life, and who in New Zealand is best prepared to deal with challenges. Understanding New Zealanders wellbeing provides insights into what can be changed at individual, community, and societal levels to make New Zealand a better place to live. This information can be used by leaders to help people thrive and by individuals to make positive improvements to their own lives and the lives of others around them. The aim of the SWI, Round 2 is to, 1) provide an update on the prevalence and factors which contribute to wellbeing in New Zealand, and 2) determine how wellbeing has changed in New Zealand since the first wave in 2012.

Section 2: SWI Survey

The SWI comprises a core wellbeing module and additional socio-demographic, health, and lifestyle questions. The survey is completed by study participants (adults aged 18 years and over) using a web-based survey platform.

The wellbeing module is repeated from the first SWI wave undertaken in 2012 so that data can be compared over time. For the second SWI wave undertaken in 2014, the set of health and lifestyle questions underwent significant modification to provide a broader understanding of the relationships between health, lifestyle behaviours and wellbeing. Questions developed for the 2014 survey underwent cognitive and reliability testing to ensure that questions were understood as intended and response options were appropriate.

Wellbeing module

The wellbeing module contains validated psychometric scales which measure several components of wellbeing including emotional wellbeing, life satisfaction, vitality, resilience and self-esteem, positive functioning, supportive relationships, and flourishing. The rotating Personal and Social Wellbeing module of the European Social Survey (ESS) Round 6 (European Social Survey, 2012) was included in the SWI as the core wellbeing component. This module was developed by leading international wellbeing experts to represent both hedonic and eudaimonic components of wellbeing (the combination of feeling good and functioning well) (European Social Survey, 2013). This comprehensive module was supplemented with additional scales, including the Flourishing Scale (Diener et al., 2010), two questions on strengths use (Govindji & Linley, 2007), and a life domains satisfaction scale developed for the purposes of this study. Table 1 summarises the topics included in the wellbeing module.

Table 1. Wellbeing module topics

Concept	Topics
Evaluations and emotions	
Evaluations	Overall satisfaction, satisfaction with job, social optimism, subjective socio-economic position, domain satisfaction
Emotions	Happiness overall, calmness, anxiety, depression
Functioning	
Personal	Resilience, meaning and purpose, autonomy and control, engagement, competence, vitality, strengths use, time use
Social	Thick relationships, thin relationships, active involvement
Wellbeing-promoting activities	Connect, be active, take notice, keep learning, give
Psychological resources	Self-esteem, optimism

Demographics

Socio-demographic questions are used to describe the characteristics of the sample population and provide insights into the groups of people that have high or low wellbeing. Table 2 summarises the topics included in the demographics section.

Table 2. Demographic topics

Concept	Topics
Individual	Age, gender, ethnicity
Household and Family	Marital status, household composition, children
Socio-economic	Academic qualification, household income, income security
Employment	Employment status, occupation, shift work, hours of work, work-life balance, job satisfaction
New Zealand	Region, city size

Health and Lifestyle Module

A key objective of the SWI is to examine the relationship between wellbeing and chronic health conditions, and the moderating effect of lifestyle behaviours. Questions included in this module are drawn from various sources, including the New Zealand Health Survey (Ministry of Health, 2006), ESS Rounds 3 and 6 (European Social Survey, 2006, 2012), the Three-factor Eating Questionnaire (Stunkard & Messick, 1985), Sleep Scale (Hays & Stewart, 1992) and the Obstacles to Action survey (Sullivan, Oakden, Youngm, Butcher, & Lawson, 2003). Additional questions were developed for the purposes of this study, including behavioural physical activity and nutrition questions. Table 3 summarises the topics included in the Health and Lifestyle Module.

Table 3. Health and Lifestyle topics

Concept	Topics
Health	Subjective health, hampered activities, health conditions, health professional visits, pregnancy
Body size	Weight, height, subjective weight
Alcohol and smoking	Alcohol consumption, smoking
Sleep	Hours of sleep, sleep quality
Nutrition behaviour	Food consumption, dietary habits, dieting
Physical activity	Sitting, workplace/daily physical activity, transport mode, lifestyle physical activity, exercise types, exercise contexts

Section 3: Methods and Procedures

This section describes the methods and procedures of the 2014 SWI, including the sample selection, recruitment, data collection, and response rates.

Sample selection

The 2014 SWI was undertaken with a sample of approximately 10,000 New Zealand adults aged over 18 years. Due to the large sample size intended for this study, the cost of traditional forms of participant recruitment and data collection (telephone and door-to-door recruitment strategies) was prohibitive. As such, a web-based approach to sample selection and data collection was employed, a method being used increasingly in health and psychology research (Reips, 2006). Approximately 80% of New Zealand households are connected to the internet and 78% of New Zealanders over 15 years of age access the internet on a weekly basis (Statistics New Zealand, 2013).

TNS New Zealand, a research agency specialising in web-based survey data collection, was contracted to undertake the recruitment and data collection procedures. The sample was selected from one of New Zealand's largest online research panels (273,000 members). The panel sample pool is recruited through both offline (51%) and online (49%) recruitment methods, and is representative of the New Zealand population (Smile City Ltd, 2012).

The 2014 SWI used a two-stage process to select the sample from the research panel. The first stage involved selecting all panel members who participated in the 2012 survey. The second stage involved selecting a random sample of panel members that did not participate in 2012; with replacement to reach the intended target of 10,000 participants. Panel members aged under 40 years were marginally oversampled in order to achieve a sample representative of New Zealand adults over 18 years.

Recruitment procedures

Each selected panel member was sent an email invitation by the panel provider. Participants were directed to the web-based survey where an information sheet was provided (ethical approval granted by AUT Ethics Committee: 12/201). Participants who agreed to participate proceeded to the web-based survey. Selected panel members were given a period of seven days to respond to the survey invitation. Recruitment continued until the target of 10,000 completed surveys was achieved.

Data collection

The survey was completed online by participants using a typical point-and-click web-based interface, visually and functionally similar to a paper-based survey. A variety of check boxes, slider scales, radio buttons, and selection lists were used as appropriate for each question type. Each question was required to be completed before proceeding to the next screen; an option for '*Prefer not to answer*' was provided for each question. Participants were prevented from completing the survey more than once. The final survey form included a total of 149 questions over 48 screens, and took approximately 21 minutes to complete (median completion time). Participants were able to stop the survey at any stage, save their responses, and continue with the survey at a later time, until the survey closed.

Testing of the survey form was undertaken in the first instance by the research agency (TNS New Zealand), and in the second instance by the research team (HPC). No substantive changes were made to the survey instrument following this testing.

Web-based surveys are being used more frequently in health and psychology research (Reips, 2006), not only for their cost-effectiveness, but also for their advantages in quality control and social desirability bias. In a paper written by van Gelder, Bretveld, and Roeleveld (2010), the authors presented distinct advantages for the use of web-based survey's, including the less prevalent use of "don't know" responses than postal surveys, avoidance of errors in data entry and coding of

responses, ability to automatically skip or present questions based on earlier responses, and minimisation of social desirability bias.

Response rates

A total of 10,009 adults participated in 2012; all of these participants were invited to participate in the 2014 wave, of which 4,435 consented and completed the 2014 survey (44%).

Additional invitations were sent to 53,628 panel members that did not participate in 2012. Of these invitations, a total of 5,577 adults participated (10%).

Of those that responded to the survey invitation (N=11,426), 88% completed the survey.

Section 4: Data Processing

Security of information

The SWI study was granted ethical approval by the AUT Ethics Committee (AUTEC: 12/201); the ethics application outlined detailed procedures for participant anonymity, protection of data, and data storage. Participants were fully informed of the study procedures and the security of their information.

Through the use of a three-tier agency structure, anonymity of participants and their responses was guaranteed. As demonstrated in Figure 1, no identifiable information was collected by the research agency, or available to the research team, and the panel provider had no access to the survey responses.

Data were transferred to the Research Team in an anonymised data file and access to the raw data is on a restricted basis.

Figure 1. Anonymisation process

Note. Panel Provider: *Smile City*; Research Agency: *TNS New Zealand;* Research Team: *Human Potential Centre, AUT.*

Data checks

Survey responses were captured in real-time as participants complete the survey using TNS New Zealand's online survey platform; as such, errors relating to data entry and response coding are avoided. All responses are included in the raw data file, with responses to each item entered as a separate variable.

Some questions offered an 'Other' option for which a free-text entry box was provided. These free-text responses were either re-categorised into an existing category, or retained as 'Other' if no existing category was appropriate. This classification process was undertaken by the Research Team.

Creation of derived variables

A number of derived variables were created using standard classifications. Table 4. provides an overview of the classification method or standard used for the creation of derived variables.

Table 4. Creation of derived variables

Module	Derived variables
Wellbeing	CESD-8 depression scale Diener Flourishing Scale Huppert & So definition of Flourishing
Demographics	Age at date of survey completion (from date of birth) Ethnicity (Prioritised method, Statistics New Zealand) Labour forces status (Statistics New Zealand) Household composition (Statistics New Zealand)
Health and Lifestyle	Body mass index Diet (developed specifically for this survey by HPC) Exercise (developed specifically for this survey by HPC)

Being Awesome

The main wellbeing outcome variable used in analysis for the main report, *Sovereign Wellbeing Index: 2015*, is a scientifically validated scale of 10 items developed to assess wellbeing as a multi-dimensional construct (Huppert & So, 2013). To move beyond a risk system where the measurement of population health is focussed on symptoms of malfunction, this scale of flourishing measures characteristics that are the mirror opposite to depression and anxiety to represent positive functioning. Table 5 presents the SWI survey items used for the classification of being Awesome, according to the Huppert and So framework (2013).

Table 5. Classification of being Awesome

Element of wellbeing	SWI Survey item	Score
Positive Emotions (Endorse 1 of 1 element)		
Happiness	Taking all things together, how happy would you say you are? (B 2)	≥ 8 /10
Positive Characteristics (Endorse 4 of 5 elements)		
Emotional Stability	How much of the time in the past week...you felt calm and peaceful? (B35)	≥ 2 /4
Vitality	How much of the time in the past week...you had a lot of energy? (B33)	≥ 3 /4
Optimism	I'm always optimistic about my future (B22)	≥ 4 /5
Resilience	When things go wrong in my life, it generally takes me a long time to get back to normal (B39)	≥ 4 /5
Self-esteem	In general I feel very positive about myself (B23)	≥ 4 /5
Positive Functioning (Endorse 3 of 4 elements)		
Engagement	How much of the time would you generally say you are...absorbed in what you are doing? (B52)	≥ 4 /5
Competence	Most days I feel a sense of accomplishment from what I do (B38)	≥ 4 /5
Meaning	I generally feel that what I do in my life is valuable and worthwhile (B43)	≥ 4 /5
Positive Relationships	To what extent do...you receive help and support from people you are close to when you need it? (B56)	≥ 4 /6

To be classified as being Awesome positive emotions, positive characteristics, and positive functioning must all be endorsed. To be classified as Nearly Awesome, two of the three elements (positive emotions, positive characteristics, and positive functioning) must be endorsed. Those who do not endorse any, or only endorse one of the three elements are classified as 'Could do Better'.

Analysis methods

Data presented in the Executive Report titled *Sovereign Wellbeing Index: 2015*, and the associated data tables, were analysed according to the following methods:

Prevalence

Prevalence is the proportion of the sample who have (or endorse) a particular characteristic. This is calculated by dividing the number of the sample who have or endorse the characteristic by the total number of people in the sample of interest. For example, the prevalence of Being Awesome among

older adults is calculated as the number of older adults classified as Awesome, divided by the number of older adults in the sample. The result is expressed as a percentage.

Confidence Intervals

The 95% confidence intervals (95% CI) are used to indicate a statistical margin of error around prevalence estimates. This interval indicates the level of uncertainty in a measurement that occurs due to taking a sample, rather than measuring everyone in the population. A confidence interval is a range within which the true population value is likely (95% of the time) to fall.

Differences between prevalence estimates are considered to be statistically significant when the confidence intervals for independent prevalence estimates do not overlap.

Confidence intervals are directly influenced by the size of the sample. Therefore, while confidence intervals for two prevalence estimates with small samples may overlap (and thus deemed not significantly different), more data may be needed to determine the true effect.

Logistic Regression

Logistic regression models were used to test the relationship between wellbeing and predictor variables. Odds ratios represent the odds of wellbeing for the group of interest, compared with the reference group. Adjusting for other variables that may be influencing the relationship allows for a clearer indication of the relationship between wellbeing and the main variable of interest. In most cases, age, income security and employment were used as adjustment variables. For example, the relationship between household composition and wellbeing may be influenced, at least to some extent, by age, income, and employment.

The odds ratios can be interpreted as:

- An odds ratio with a 95% CI that includes 1.0 indicates that there is no significant difference between the group of interest and the reference group.
- An odds ratio with a 95% CI that is greater than 1.0 indicates that the outcome (e.g., being Awesome) is more likely in the group of interest and the reference group.
- An odds ratio with a 95% CI that is less than 1.0 indicates that the outcome (e.g., being Awesome) is less likely in the group of interest and the reference group.

International comparisons

International comparisons were made with countries participating in Round 6 of the European Social Survey (European Social Survey, 2012) on selected wellbeing indicators. These comparisons show how New Zealand ranks against 29 European nations. These countries included:

Albania	Hungary	Portugal
Belgium	Iceland	Russian Federation
Bulgaria	Ireland	Slovakia
Cyprus	Israel	Slovenia
Czech Republic	Italy	Spain
Denmark	Kosovo	Sweden
Estonia	Lithuania	Switzerland
Finland	Netherlands	Ukraine
France	Norway	United Kingdom
Germany	Poland	

References

Christakis, N. A., & Fowler, J. H. (2009). *Connected: The surprising power of our social networks and how they shape our lives*. New York: Little Brown.

Diener, E. (2000). Subjective well-being: The science of happiness and a proposal for a national index. *American Psychologist, 55*(1), 34-43. doi:10.1037/0003-066X.55.1.34

Diener, E. (2006). Guidelines for national indicators of well-being and ill-being. *Social Indicators Research, 1*(2), 151-157. doi:10.1007/s11482-006-9007-x

Diener, E., Oishi, S., & Lucas, R. E. (2015). National accounts of subjective well-being. *Am Psychol, 70*(3), 234-242. doi:10.1037/a0038899

Diener, E., Wirtz, D., Tov, W., Kim-Prieto, C., Choi, D.-w., Oishi, S., & Biswas-Diener, R. (2010). New well-being measures: Short scales to assess flourishing and positive and negative feelings. *Social Indicators Research, 97*(2), 143-156. doi:10.1007/s11205-009-9493-y

European Social Survey. (2006). *ESS Round 3 Source Questionnaire*. London: Centre for Comparative Social Surveys, City University London.

European Social Survey. (2012). *ESS Round 6 Source Questionnaire*. London: Centre for Comparative Social Surveys, City University.

European Social Survey. (2013). *Round 6 module on personal and social wellbeing: Final module in template*. London: Centre for Comparative Social Surveys, City University London.

Govindji, R., & Linley, P. A. (2007). Strengths use, self-concordance and well-being: Implications for strengths coaching and coaching psychologists. *International Coaching Psychology Review, 2*(2), 143-153.

Graham, C. (2009). *The paradox of happy peasants and miserable millionaires*. Oxford: Oxford University Press.

Hays, R. D., & Stewart, A. L. (1992). Sleep measures. In A. L. Stewart & J. E. Ware (Eds.), *Measuring functioning and well-being: The Medical Outcomes Study approach*. Durham: NC: Duke University Press.

Hone, L., Jarden, A., & Schofield, G. (2014). Measuring flourishing: The impact of operational definitions on the prevalence of high levels of wellbeing. *International Journal of Wellbeing*, 42-70. doi:10.5502/ijw.v?i?.?

Human Potential Centre. (2013). *Sovereign Wellbeing Index: New Zealand's first measure of wellbeing*. Auckland: Human Potential Centre.

Huppert, F. A., Marks, N., Clark, A., Siegrist, J., Stutzer, A., Vitterso, J., & Wahrendorf, M. (2009). Measuring well-being across Europe; Description of the ESS well-being module and preliminary findings. *Social Indicators Research, 91*(3), 301-315. doi:10.1007/s11205-008-9346-0

Huppert, F. A., & So, T. C. (2013). Flourishing across Europe: Application of a new conceptual framework for defining well-being. *Social Indicators Research, 110*(3), 837-861. doi:10.1007/s11205-011-9966-7

Jarden, A., Mackay, L., White, K., Schofield, G., Williden, M., Hone, L., & McPhee, J. (2013). The Sovereign New Zealand Wellbeing Index. *Psychology Aotearoa, 5*(1), 22-27.

Michaelson, J., Abdallah, S., Steuer, N., Thompson, S., & Marks, N. (2009). *National Accounts of Well-being: Bringing real wealth onto the balance sheet*. London: new economics foundation. Retrieved from www.nationalaccountsofwellbeing.org

Ministry of Health. (2006). *2006/07 New Zealand Health Survey: Adult Questionnaire*. Wellington: Ministry of Health.

Reips, U. D. (2006). Web-based methods. In M. Eid & E. Diener (Eds.), *Handbook of multimethod measurement in psychology* (pp. 73-85). Washington, DC: American Psychological Association.

Smile City Ltd. (2012). *ESOMAR: 27 Questions*.

Statistics New Zealand. (2013). *Household use of information and communication technology: 2012*. Wellington: Statistics New Zealand.

Stoll, L., Michaelson, J., & Seaford, C. (2012). *Well-being evidence for policy: A review*. London: new economics foundation.

Stunkard, A. J., & Messick, S. (1985). The three-factor eating questionnaire to measure dietary restraint, disinhibition and hunger. *Journal of Psychosomatic Research, 29*(1), 71-83. doi:http://dx.doi.org/10.1016/0022-3999(85)90010-8

Sullivan, C., Oakden, J., Youngm, J., Butcher, H., & Lawson, R. (2003). *Obstacles to Action: A study of New Zealanders physical activity and nutrition*. Wellington: AC Neilsen for Sport NZ.

van Gelder, M. M., Bretveld, R. W., & Roeleveld, N. (2010). Web-based questionnaires: the future in epidemiology? *American Journal of Epidemiology, 172*(11), 1292-1298. doi:10.1093/aje/kwq291

Weijers, D., & Jarden, A. (2013). The science of happiness for policymakers: An overview. *Journal of Social Research & Policy, 4*(2).

Appendix E. Ethical approval for the qualitative study

Ethics approvals for the qualitative study are included in the following order:

E.1 Auckland University of Technology Ethics Committee ethics approval.

E.2 New South Wales Ambulance Service, Australia, ethics approval.

E.3 New Zealand Police ethics approval.

E.4 St John Ambulance, New Zealand, ethics approval.

E.5 The participant information sheet and written consent document.

Appendix E.1. Ethics approval from Auckland University of Technology

AUTEC Secretariat

Auckland University of Technology
D-88, WU406 Level 4 WU Building City Campus
T: +64 9 921 9999 ext. 8316
E: ethics@aut.ac.nz
www.aut.ac.nz/researchethics

29 October 2015

Aaron Jarden
Faculty of Health and Environmental Sciences

Dear Aaron

Re Ethics Application: **15/391 An investigation of first responders' wellbeing: How do first responders' mediate, negotiate and navigate wellbeing throughout their careers.**

Thank you for providing evidence as requested, which satisfies the point raised by the Auckland University of Technology Ethics Subcommittee (AUTEC).

Your ethics application has been approved in stages for three years until 28 October 2018.

As part of the ethics approval process, you are required to submit the following to AUTEC:

- A brief annual progress report using form EA2, which is available online through http://www.aut.ac.nz/researchethics. When necessary this form may also be used to request an extension of the approval at least one month prior to its expiry on 28 October 2018;
- A brief report on the status of the project using form EA3, which is available online through http://www.aut.ac.nz/researchethics. This report is to be submitted either when the approval expires on 28 October 2018 or on completion of the project.

It is a condition of approval that AUTEC is notified of any adverse events or if the research does not commence. AUTEC approval needs to be sought for any alteration to the research, including any alteration of or addition to any documents that are provided to participants. You are responsible for ensuring that research undertaken under this approval occurs within the parameters outlined in the approved application.

AUTEC grants ethical approval only. If you require management approval from an institution or organisation for your research, then you will need to obtain this.

To enable us to provide you with efficient service, please use the application number and study title in all correspondence with us. If you have any enquiries about this application, or anything else, please do contact us at ethics@aut.ac.nz.

All the very best with your research,

Kate O'Connor
Executive Secretary
Auckland University of Technology Ethics Committee

Appendix E.2. New South Wales Ambulance ethics approval

Health
South Eastern Sydney
Local Health District

NSW GOVERNMENT

HUMAN RESEARCH ETHICS COMMITTEE
Room G71 East Wing
Edmund Blacket Building
Prince of Wales Hospital
RANDWICK NSW 2031
Tel: 02 9382 3587 Fax: 02 9382 2813
RSOSESLHD@SESIAHS.HEALTH.NSW.GOV.AU
www.seslhd.health.nsw.gov.au/POWH/researchsupport

06 July 2016

Ms Kristen Hamling
1A Parkes Avenue
St Johns Hill
WHANGANUI 4501
NEW ZEALAND

Dear Ms Kristen Hamling

HREC ref no: 16/071 (HREC/16/POWH/214)
Project title: Wellbeing in the emergency services: How do we care for those who care for us?

Thank you for submitting the above application for ethical and scientific review and for your correspondence dated 22 June 2016 to the Executive Officer responding to questions which arose at the Executive Committee meeting on 6 June 2016.

Authority to grant final approval was delegated to the Executive Officer and I am pleased to advise that ethical approval has been given for the following:

- NEAF Submission Code AU/1/FC64213
- Protocol Version 3, dated 22 June 2016
- Response to Executive Committee Queries , email dated 22 June 2016
- Response to HREC Queries, email dated 26 May 2016

Ethical approval is valid for the following site(s):

- NSW Ambulance

Conditions of approval

1. This approval is valid for 5 years from the date of this letter.
2. Annual reports must be provided on the anniversary of approval.
3. A final report must be provided at the completion of the project.

4. Proposed changes to the research protocol, conduct of the research, or length of approval will be provided to the Committee.
5. The Principal Investigator will immediately report matters which might warrant review of ethical approval, including unforeseen events which might affect the ethical acceptability of the project and any complaints made by study participants.

Optional It is the responsibility of the sponsor or the principal (or co-ordinating) investigator of the project to register this study on a publicly available online registry (eg Australian New Zealand Clinical Trials Registry www.anzctr.org.au).

For NSW Public Health sites only: You are reminded that this letter constitutes ethical approval only. You must not commence this research project until you have submitted your Site Specific Assessment (SSA) to the Research Governance Officer of the appropriate institution and have received a letter of authorisation from the General Manager or Chief Executive of that institution.

Should you have any queries, please contact the Research Support Office on (02) 9382 3587. The HREC Terms of Reference, Standard Operating Procedures, membership and standard forms are available from the Research Support Office website: http://www.seslhd.health.nsw.gov.au/POWH/researchsupport/default.asp.

Please quote **16/071** in all correspondence.

We wish you every success in your research.

Yours sincerely

Andrew Bohlken
Executive Officer, Research Support Office

This HREC is constituted and operates in accordance with the National Health and Medical Research Council's (NHMRC) *National Statement on Ethical Conduct in Human Research (2007)*, NHMRC and Universities Australia *Australian Code for the Responsible Conduct of Research (2007)* and the *CPMP/ICH Note for Guidance on Good Clinical Practice*.

Appendix E.3. New Zealand Police ethics approval

New Zealand Police Research Agreement

THIS AGREEMENT is made on 31 October 2016

BETWEEN Her Majesty the Queen in Right of Her Government in New Zealand acting by and through the Commissioner of Police ("Police")

AND the Principal Researcher…Kristen Hamling

AND/OR Principal Researcher's Organisation

Auckland University of Technology

Please note: If the principal researcher is employed by or affiliated to a NZ University the University will be the party to this agreement. This agreement should be entered into through the University's Research Office.

BACKGROUND

The NZ Police (hereinafter Police) want to make high-quality data available for research:

1. in as much detail as is necessary and possible
2. as widely as practicable
3. as soon as possible
4. as conveniently as is reasonable having regard to the impact on the activities of Police

while ensuring all legislative and ethical obligations governing access to, and safekeeping of, individualised and personal information are followed.

a. The Principal Researcher has submitted to Police an application to undertake research, including a Research Proposal as set out as Schedule One ("The Application").

b. The Researcher has submitted The Application after having read and understood the Police Policy for External Researchers Access to Resources, Data or Privileged Information

c. Police has accepted and approved The Application.

d. This Agreement documents the terms and conditions upon which Police allows the Researcher to conduct research accessing the resources of Police. The scope of the research is detailed in the approved Research Proposal appended as Schedule One.

e. If the Researcher wishes, at any stage, for additional individuals to undertake research (or to substitute individuals) they must first obtain Police consent in writing and understand that those additional individuals may first need to clear appropriate and reasonable security and additional checks before undertaking research.

f. The Researcher agrees to conduct research in accordance with The Application.

g. The Researcher has approval from an accredited institutional ethics committee, or the proposal has been reviewed by a recognised human ethics body.

h. Other than information being gathered for the research, the Researcher agrees to keep confidential all information about Police and its operations about which the Researcher becomes aware and where this information is not in the public domain. This condition survives expiry or termination of The Project and this Agreement.

i. Researchers are welcome to provide comments on their experiences with conducting research with Police to research@police.govt.nz that will be included within the review of the Police Policy for External Researchers Access to Resources, Data or Privileged Information that will occur every 24 months.

SIGNED by the Principal Researcher

K Hamling

..... (signature)

KRISTEN HAMLING

..... (name in block letters)

Appendix E.4. St John Ambulance, New Zealand, ethics approval

The below email constitutes formal locality authorisation for your study from St John. This can be used as evidence of industry consultation for the purposes of ethics committee applications as required. Please also keep a copy of this email for your records.

Date: 10 December 2015

Study title: An investigation of first responders' wellbeing: how do first responders' mediate, negotiate and navigate wellbeing throughout their careers.
St John reference: 0058

Dear Kristen

Your research study has undergone a locality review by St John, and I am pleased to inform you that your study is now authorised to go ahead subject to the conditions set out below.

Conditions - general
Progress reports should be submitted to St John annually on 1-June until the conclusion of the project. A link to an online form will be emailed to you when this report is next due for your project. At the conclusion of the project a final report should be submitted to St John with a synopsis outlining the results, conclusions any recommendations from the study.
The Principal Investigator is required to complete a copy of the *OMF 4.9.7 Research Memorandum of Understanding*.

Conditions - project specific

a. Ensure that you liaise with Territory Managers (TMs) and District Operations Managers (DOMs), as appropriate, regarding the recruitment of participants for this study.
b. Ensure that there is no disruption/delay to the normal delivery of service for the purposes of staff recruitment.
c. Ensure that the Clinical Audit and Research Team (CART@stjohn.org.nz) is made aware of the proposed method of participant recruitment and any subsequent changes to this proposed method.

Bridget Dicker, PhD | Clinical Research Fellow
St John

T 09 5260527 ext 8771
M 027 705 2617
E bridget.dicker@stjohn.org.nz
10 Harrison Road I Mount Wellington I Auckland 1060 I New Zealand
www.stjohn.org.nz

Appendix E.5. Participant information sheet and a written consent document

HUMAN POTENTIAL CENTRE
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First Responder Wellbeing - Participant Information Sheet

My name is Kristen Hamling and I would like to invite you to take part in a study I am running as part of my PhD. Your decision to participate is completely voluntary and your confidentiality will be assured. Please read through this information sheet before making your decision.

What is the purpose of this research?

The purpose of this research is to investigate wellbeing from the first hand perspective of first responders. In particular, I want to identify the factors that enhance first responder wellbeing. This research will contribute to my PhD thesis and will likely result in a journal publication.

How was I identified and why am I being invited to participate in this research?

You have been identified for this research because you are currently employed as, or are a retired, operational Police Officer, Firefighter or Ambulance Officer / Paramedic, or you work closely with first responders.

What is the background of the person conducting this research?

I have worked mostly in the field of trauma as a psychologist. This has included working in the Australian Defence Force as a Psychologist, in the Army Reserve (including periods of full time service) as a Psychology Officer, with the Australian Federal Police, the NSW Police and the NSW Ambulance in Australia. I am currently a registered, but non-practicing, psychologist whilst I complete a PhD. I am also married to a retired Firefighter.

What will happen in this research?

I would like to interview you once or twice for approximately 1-2 hours. The first interview will be relatively unstructured to allow me to get a sense of what factors contribute to your wellbeing. The questions will be loosely based on the title of the current study - “An investigation of first responders’ wellbeing: how can the wellbeing of first responders be protected throughout their careers?”

If you are willing and able to participate in a second interview, I would like to ask you more specific questions about your wellbeing. The second interview will be more structured and based on information collected from other first responders.

What are the discomforts and risks and how will these be alleviated?

Given we will be talking about your wellbeing, you may recall stories, experiences or feelings that are upsetting to you. If this does occur, I will provide you with support and give you the opportunity to take a break or if necessary discontinue the interview. You may withdraw from the interview at any stage without being disadvantaged.

If you continue to experience difficulty at the completion of the interview I will advise you of self-care measures and encourage you to contact your Employee Assistance provider (*insert relevant provider details*). If you become acutely distressed then I will arrange an immediate session with an Employee Assistance Psychologist, a chaplain or peer support officer.

What are the benefits?

High wellbeing is associated with better health and optimal functioning across a range of life domains. To achieve higher wellbeing in first responders, we first need to understand what factors are associated with your wellbeing.

Presently there is little knowledge about wellbeing from the first hand perspective of first responders. The knowledge generated from this study will create new insights about wellbeing in first responders, which can be used by emergency service organisations, professionals (e.g., healthcare professionals, mental health therapists, pastoral support) and EAPs to strengthen wellbeing initiatives.

How will my privacy be protected?

Your responses will be confidential. The results of this study may be used in reports, presentations, or publications but your name will not be used. I also will not write or talk about experiences where you could be identified by others.

I will keep the digitally recorded interviews as well as the transcribed interviews and questionnaires in a password-protected computer. The interview data will be stored in a locked and secure room at Auckland University of Technology's ethics department. We will not retain any identifying information. I will retain this data for six years after which it will be permanently destroyed.

What are the costs of participating in this research?

Approximately one to two hours of your time is required for this research program on one or two separate occasions.

What opportunity do I have to consider this invitation and how do I agree to participate?

You may email or phone me if you would like to participate. We can then coordinate a time to conduct the interview.

Will I receive feedback on the results of this research?

All papers that are generated from this research will be provided to you electronically.

What do I do if I have concerns about this research?

Any concerns regarding the nature of this project should be notified in the first instance to my supervisor, Dr Aaron Jarden, aaron.jarden@aut.ac.nz, 921 9168.

Concerns regarding the conduct of the research should be notified to the Executive Secretary of AUTEC, Kate O'Connor, *ethics@aut.ac.nz* , 921 9999 ext 6038.

Whom do I contact for further information about this research?

Researcher Contact Details
Kristen Hamling
Human Potential Centre, #P1
AUT University
Private Bag 92006
Auckland
Phone: 0276 817 971
Email: kristenhamling@me.com

Supervisor Contact Details
Aaron Jarden
Human Potential Centre, #P1
AUT University
Private Bag 92006
Auckland
Phone: 921 9168
Email: aaron.jarden@aut.ac.nz

Written consent document

Project Supervisor: Aaron Jarden

Researcher: Kristen Hamling

- I have read and understood the information provided about this research program in the Information Sheet.
- I have had an opportunity to ask questions and to have them answered.
- I understand that my identity will remain confidential. The only people who have access to the results are the researcher, and the researcher's supervisor (Dr Aaron Jarden), both of whom have been authorised to participate in the research program by your organisation. We have both been vetted by (*insert relevant organisational details*).
- I understand that the interview will be audio-taped and transcribed, and that the researcher will take notes during the interview.
- I understand that I may withdraw myself, or any information that I have provided, at any time prior to completion of data collection, without being disadvantaged in any way.
- I understand that the information I provide may be used in publications, minus any identifying information. I can ask the researcher to exclude certain information from her notes if it makes me feel uncomfortable.
- I understand that if I feel distressed at any stage then the researcher will encourage me to contact the Employee Assistance Provider as outlined in the information sheet, or she may arrange an appointment for me.
- I wish to receive a copy of the report from the research Yes No

Participant's name: ..……
Participant's signature: ..... **Date** : ……
Phone No:…….
Email address:……..…

If you are interested in participating, or have any questions about the research, please contact Kristen Hamling.

Email address:	kristenhamling@me.com
Postal address:	Kristen Hamling - Human Potential Centre, #P1 AUT University, Private Bag 92006, Auckland, 1142
Phone number:	0276 817 971

Appendix F. List of developing codes, subcategories, and categories in initial coding in the qualitative study

The below categories eventually became **striving to achieve my why, building a toolbox** and **using skills to achieve my why** in the *heart of wellbeing* theory.

Category: Starting with why (the first why)
Code: Professional why.
Code: Pragmatic why.
Code: Spiritual why.
Code: Altruistic why.* most prominent: making a difference.
Code: Ambivalent why.

Category: Perceiving multiple agendas.
Code: Public's' agenda.
Code: Family and friends' agenda.
Code: Subordinate's agenda.
Code: Co-workers' agenda.
Code: Manager's agenda.
Code: Lawyer's agenda.
Code: Media's agenda.
Code: System's agenda.

Category: Conflicting agendas: leads to barriers.
Subcategory: conflicting agendas.
Code: Not trusting co-workers.
Code: Not feeling safe.
Code: Not receiving care to give care.
Code: Feeling stuck in someone else's agenda.
Code: Feeling subjugated by others, by the system.
Code: Conflicting values—internally and externally.
Code: Defining success differently to those around you.
Code: Lacking a coherent purpose - not everyone wants to be a first responder.
Code: Lacking autonomy, unable to stay in a job you love.
Subcategory: encountering barriers.
Code: Not functioning as a team.
Code: Lacking collegiality.
Code: Not feeling effective: this is when they experience lower wellbeing.
Code: External markers of success are lacking.
Code: Working with conflicting agendas.
Subcategory: Aligning agendas
Code: Trusting each other.
Code: Promoting camaraderie.
Code: Collegiality: everyone wants to be first responder in the team.

Category: Using skills, tools and resources.
Code: Learning and growing from mistakes.
Code: Role Clarity / Clarity of purpose.
Code: Trusting other people.
Code: Functioning as a cohesive team.
Code: Supporting each other.
Code: Working with authentic leaders. Managers care about you, managers proactively look after their staff, coaching and mentoring NOT micro-managing or punitive.
Code: Internal tools (e.g., perspective, mindset, efficacy, interpersonal skills, balancing identity, clarity of purpose).
Code: External tools (e.g., co-workers, sounding board, more experience, training, finances).

Category: Negotiating, navigating and evaluating.

	Subcategory: NEGOTIATING *—the process of negotiating conflict to achieve my why.*	***Subcategory: NAVIGATING*** *—the process of navigating my why amidst conflict.*	***Subcategory: EVALUATING*** *—the process of evaluating the success of my why amidst conflict.*
Code*: Proactive —creating situations to achieve my why.	Prioritising my why. Creating opportunities to achieve my why. Balancing different whys.	Changing my why. Reinforcing my why. Looking for opportunities to achieve my why.	Evaluating success subjectively —via internal markers of success.
Code*: Reactive —responding to conflict to achieve my why.	Asserting my why. Changing external whys. Using a compensatory why. Playing the game. Negotiating flexibly.	Remembering my why. Realising my why. Finding my why.	Evaluating success objectively —via external markers of success.
Code*: Passive —avoiding conflict to achieve my why.	Keeping under the radar. Avoiding conflict.	Navigating an incongruent why. Letting the system guide you.	Evaluating success passively —via no markers of success.