

**Protective and Enabling Factors that Facilitate
Undercover Police Work**

by

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A thesis submitted to the University of Birmingham

for the degree of

Doctorate in Forensic Psychology Practice (ForenPsyD)

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March 2020

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Abstract

Law enforcement has been classified as one of the most stressful professions in the world. It has been demonstrated that if not managed effectively, stress has a significant negative impact on the physical health and psychological well-being of police officers. The aim of this thesis is to increase understanding of protective and enabling factors that facilitate police work, particularly in the speciality assignment of undercover work. Chapter 1 introduces literature on common stressors in police forces and specific stressors which can affect undercover agents, outlines the negative impacts these can have on individuals, and concludes with a discussion about the importance of coping and resilience within police forces. Chapter 2, a systematic literature review, examines and synthesises the literature on resilience and coping in police officers, when dealing with stress. Eighteen studies were included in the final review, from different countries and with large/diversified samples. Chapter 3 presents a critique of the Resilience Scale (RS; Wagnild & Young, 1993); a 25-item self-report assessment tool that measures the degree of individual resilience. The psychometric properties of the RS are discussed, and recommendations are made as to how the measure could be improved. Chapter 4 consists of an empirical study using a convergent mixed methods approach to examine resilience, coping, and detection avoidance strategies used by police officers with and without undercover/plainclothes experience. A total of 139 Portuguese police officers, working in criminal investigation, provided some form of data towards this study. Finally, Chapter 5 discusses the work presented, drawing together the main findings and limitations from each chapter. Implications for practice within police forces, ways in which psychologists can support and increase well-being in police officers (particularly undercover agents), and recommendations for future research are also presented.

Dedication

This thesis is dedicated to my mother,
for wanting this doctorate nearly as much as me.

Mum, “I don’t know how my story will end,
but nowhere in the text will it ever read: I gave up”.

Acknowledgements

Firstly, I would like to thank my academic supervisors, Dr Darren Bishopp and Dr Zoe Stephenson for their relentless support, expertise, guidance, feedback and encouragement throughout my doctorate. Daz, for always believing in this project, helping to bring it to life and for your permanent availability over the years, and Zoe, for your insightful comments, understanding, availability and support in making sure I stayed on track. I will be forever grateful to both of you.

Secondly, I would like to express my gratitude to Major C. B. for believing in this project and allowing me to conduct the study, and to all the police officers of the Portuguese Police Force who gave up their time and contributed towards this study. Without them, this study would not exist.

My gratitude also goes to my friends who supported me throughout this time, particularly to Rita for so many reasons I cannot even begin to list; to Sultana for providing me with ‘shelter’ and fancy celebrations in the milestones achieved; to Isa for sharing her knowledge of the ‘pain’ that a doctorate is; to Aurora, Alessandra and Sheila for keeping an eye on me, and making sure I was still half-sane throughout this journey!

Finally, my deepest gratitude goes to my family, particularly my parents and my aunt. Thank you for always believing in me, many times more than I believed in myself. Thank you for your unconditional support at all levels, and for your patience when things got tough! It means more than you will ever know.

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CHAPTER 1

Introduction

Law enforcement has been classified within the top five most stressful professions in the world and, according to some research, as the single most stressful occupation (Anshel, 2000; Burke, 1998; Jaramillo, Nixon, & Sams, 2005; Violanti & Aron, 1995; Zhao, He, Lovrich, & Cancino, 2003). Dr Hans Selye – the person who coined the term ‘stress’ as it is known today – once stated that police work “ranks as one of the most hazardous [occupations], even exceeding the formidable stresses and strains of air traffic control” (Selye, 1978, p. 7, cited in Toch, 2002).

Stress in police work has generally been studied from two viewpoints: the perspective of the stress produced by the nature of police work (i.e., operational stressors such as exposure to traumatic situations), and the way in which police work is organised (i.e., organisational stressors such as bureaucracy) (Brown & Campbell, 1990; Stuart, 2008; Violanti et al., 2017). Research demonstrates that negative aspects of police work such as lack of respect from members of the public, excessive paperwork, boredom and contact with the public that is sometimes adverse and confrontational, contribute to officers’ high stress levels (Burke, 1998). Moreover, shift work, threats of violence, and the hierarchical power structures of policing are among the work stressors that challenge police officers (Greller & Parsons, 1988; Jermier, Gaines, & McIntosh, 1989; Stotland & Pendleton, 1989).

Further to this, the speciality assignment of undercover operations has been described as one of the most stressful assignments within the profession (Farkas, 1986; Girodo, 1985). Law enforcement officers assigned to undercover operations (known as Undercover Operatives – UCO’s) are reported to experience high levels of stress while performing their undercover duties (Preijers, 2015). These agents work covertly in the interests of public safety using different methods of cover depending on the needs of the operations. These range from ‘plainclothes’ surveillance and enforcement, to short-term (i.e., ‘buy and bust’ scenarios) and

long-term processes (i.e., infiltrations that can take months or years) (Band & Sheehan, 1999). This is done in order to develop prosecutable evidence through access to dangerous criminals/organisations from the inside (Miller, 2006) (see introduction of Chapter 4 for further detail).

Undercover work, on top of the stressors that affect police officers in general, also features isolation from relatives, friends and colleagues, as well as the need to adopt behaviours and characteristics which frequently go against the agents' beliefs and personality (Kowalczyk & Sharps, 2017). Furthermore, this type of work can generate negative attention from the public and even from their fellow officers while in the undercover role (Kowalczyk & Sharps, 2017). Some of the potential stressors that have been associated specifically with undercover policing include: lack of management commitment (i.e., UCO's believe that supervisors lack commitment and sensitivity regarding their work); personal problems (i.e., isolation that can translate into mental health crisis and maladaptive coping); personal relationships with suspects; and over-identification with suspects/loss of personal identity (Band & Sheehan, 1999). There may exist some fear of being caught, as Band and Sheehan state: "whether the threat is real or imagined when undercover officers fear discovery, they experience emotional discomfort" (1999, p. 3). Other stressors include: technical difficulties (i.e., when working 'wired'); interagency cooperation (i.e., differences in procedures between agencies); lack of recovery time (i.e., between undercover operations); lack of context (i.e., exposure to unknown geographical areas and cultures); and unsuitable roles (i.e., when the cultural, ethnic and geographic backgrounds differ significantly from the UCO's) (Band & Sheehan, 1999). Farkas (1986), referring to FBI declassified data, encapsulated three main stressor sources: the agent-supervisor relationship; the role requirements; and the strain on

family and social relationships that undercover assignments cause to UCO's (Edelmann, 2010).

These stressful events can generate a variety of symptoms and reactions, including worsening work performance (e.g., absenteeism and low confidence), adverse psychological states (e.g., burnout, frustration, anger, and depression) as well as psychosomatic and physical problems (e.g., headaches and ulcers) (Hills & Norvell, 1991; Kaufman & Beehr, 1989; Vulcano, Barnes, & Breen, 1984). Other studies (Burke, 1998; Jaramillo et al., 2005; Kroes, 1976) have shown that capable and talented police officers start lacking commitment to the organisation and leave the profession (e.g., retiring or going onto other careers). More importantly, exposure to trauma and the way in which police work is organised can make officers more vulnerable to post-traumatic stress reactions and suicide (Stuart, 2008).

Undercover agents risk their lives through the possibility of being discovered and the violent outcomes that such a discovery might entail, not only physically but also emotionally (Macleod, 1995). As a result, undercover work is frequently associated with problems in physical and mental health, as well as with difficulties in post-assignment social adjustment within the family, community and work (Kowalczyk & Sharps, 2017). Additionally, research demonstrates that, although in rare circumstances, undercover agents are at risk of enjoying the lifestyle of the person they are pretending to be, and can find it more attractive than their own (Edelmann, 2010). Despite the risks posed to the UCO's, since the 1960's, undercover policing has achieved a firm position within many law enforcement agencies around the world and is considered to be an important tactic for police to apprehend dangerous offenders and gangs, whilst keeping the public safe (Macleod, 1995; Tucker, 2015).

As with many police assignments, some officers who seek undercover work are not always best suited for the role (Miller, 2006). In order to avoid potentially disastrous

consequences for the officers and the operation, prior to selection into an undercover assignment, some law enforcement agencies require their officers to undergo a selection process (Krause, 2008; Preijers, 2015). This process can consist of psychological testing, clinical interviews, and reviews of psychological well-being. Such testing would be carried out by a psychologist prior to and throughout their undercover assignment (Krause, 2008; Preijers, 2015).

As mentioned above, numerous studies indicate that unmanaged stress has significant negative impacts in the well-being of police officers and can lead them to experience severe psychosocial problems as well as to seek alternative careers (Balmer, Pooley, & Cohen, 2014; LeBlanc et al., 2008). In an attempt to retreat from a problem-orientated research with a risk focus, attention has shifted towards a strength-based approach which seeks to understand and develop inherent strengths and capabilities of individuals, families, groups and organisations, that can transform the lives of people in positive ways (Hammond & Zimmerman, 2012; Pattoni, 2012). A strengths-based approach is associated with the traditional basis of counselling and guidance since this approach emphasises human development, positive assets, prevention, well-being, and strengths, instead of weaknesses and psychopathology (Jalala, Latifoğlu, & Uzunboyu, 2020). There is a plethora of aspects (e.g., personal resources; abilities; skills; social network; community resources) surrounding a strengths-based approach (SCIE, 2015), which include coping and psychological resilience. These two elements will be the focus of this thesis. These concepts aim to explain why many individuals are able to endure traumatic, life-threatening, adverse and stressful events without experiencing severe psychological impairment or significant disruption to functioning, while others, in the same circumstances, experience burnout (Balmer et al., 2014; Richardson, 2002). Furthermore, to address the strain imposed by this job, a series of programmes around

the world have employed mental health professionals to assist with all phases of undercover policing (Edelmann, 2010), with a special emphasis on the reintegration of the officer into 'normal' police duties (Band & Sheehan, 1999; Kowalczyk & Sharps, 2017). Part of the support provided by these professionals is to teach UCO's healthy and easy-to-use coping strategies which can prove extremely helpful when they are re-acclimatising in post-undercover operations (Kowalczyk & Sharps, 2017).

Coping has been defined as the conscious use of cognitive or behavioural strategies to reduce perceived stress (Lazarus & Folkman, 1991). The way in which individuals cope with stressful events is usually categorised as constructive/adaptive or destructive/maladaptive (Grubb, Brown, & Hall, 2015), and is likely to be on a continuum. It has been observed that an officer's personality regulates how they perceive stress, their coping strategies and their response to job stressors (Lawrence, 1984; Violanti, 1992). Maladaptive coping skills are ways of dealing with stress that usually make things worse and police officers, according to the literature, very often use maladaptive coping styles to deal with occupational stress (Grubb et al., 2015). Effective coping strategies are considered key mechanisms for resilience.

Resilience can be seen as "the capacity of individuals to cope successfully with significant change, adversity or risk" (Lee & Cranford, 2008, p. 213). There have been many, sometimes conflicting, conceptualisations of resilience in the literature (Rosenberg & Yi-Frazier, 2016) and, thus far, there is no single, universal definition of resilience (White, Driver, & Warren, 2008). Currently, three distinct lines define resilience: trait resilience, resilience as an outcome, and resilience as a process (Helmreich et al., 2017; Kalisch, Müller, & Tüscher, 2015). The original premise that conceptualised resilience as a static trait only, has been largely replaced in favour of it being a dynamic outcome, or, if mental health is measured at different points in time, a series of outcomes, meaning, a process, which suggests

that resilience is determined by several factors (Helmreich et al., 2017; Kalisch et al., 2015). Thus, reactions to different types of stressors are likely to vary depending on individual differences in the use of coping strategies as well as the interaction of the individual with their environment (Cadogan-McClean, 2009; Lazarus & Folkman, 1984). An individual may show destructive/maladaptive responses in certain situations at different times in their life, and resilience during others (Masten & O'Dougherty Wright, 2010), meaning positive adaptation despite experiences of significant adversity (Luthar & Cicchetti, 2000). These definitions suggest that police officers may change their coping strategies and resilience capacity, depending on the situations in which they find themselves. For the purpose of this study, resilience is defined as a dynamic process with a multidimensional nature (see more detail in Chapter 2).

In summary, police work, in general, and undercover operations, in particular, demonstrate ever-increasing importance to public safety. It is suggested that good selection, adequate field training, having an efficient supervisor, and having psychological monitoring and intervention services available for early treatment can greatly decrease the frequency and severity of casualties within this line of work (Macleod, 1995) while permitting UCO's to work for long periods of time (Band & Sheehan, 1999).

In contrast, failing to identify and recruit adequate officers for undercover roles and neglecting the agent's mental health, can compromise the whole operation as well as the officer's well-being (Miller, 2006). Some individuals simply do not have the coping strategies and resilience needed to successfully portray dangerous criminals (Band & Sheehan, 1999).

Aims and Structure of the Thesis

The justification for this thesis sits in the need to understand protective and enabling factors that facilitate police work, particularly undercover policing, given the high stakes

involved, such as the increase in burnout and suicide rates, as well as the high turnover rates across police forces. Despite the fact that undercover policing is controversial and presents ethical issues both for society and for the police (e.g., officers being allowed to break rules), the bleak reality of policing is that many dangerous offenders and gangs of criminals would not be apprehended, or indeed detected, without the use of undercover policing tactics (HMIC, 2014). If those tactics were not allowed, offenders would continue to break the law, and an increasing number of law-abiding citizens would become victims. Therefore, when managed and supervised appropriately, undercover policing is a legitimate tactic to make society safer (HMIC, 2014).

While there is substantial literature on resilience and coping in various populations (e.g., victims of abuse and healthcare professionals), this type of research in police officers undertaking difficult roles, such as undercover operations, is very limited and dated. Even less work has been done to explore how undercover police officers cope and maintain their 'cover'. Research conducted in police forces has focused more on uniformed officers carrying out traditional police work (Anshel, 2000; Arter, 2008; Love, Vinson, Tolsma, & Kaufmann, 2008).

The main aim of this thesis is to increase understanding of protective and enabling factors in order to promote well-being, safety and retention within this population. This thesis also aims to add to the body of evidence on resilience, coping and detection avoidance strategies in law enforcement, particularly in the speciality assignment of undercover work, as a means of informing research and policy.

In order to explore these issues, Chapter 2 presents a broad systematic literature review which aimed to synthesise some of the literature on the factors associated with resilience and coping strategies that have been identified in populations of police officers,

around the world. The objective was to identify themes in these areas to understand the strengths of police officers and the effective coping strategies they use which prevent them from burning out and leaving the profession. Considering the published research available, this systematic literature review is believed to be the only one looking at both resilience and coping strategies in police officers.

Chapter 3 of the thesis includes a critique of a psychometric instrument – Resilience Scale (RS; Wagnild & Young, 1993) – in terms of its scientific properties, its applicability to the adult population and its limitations. The Resilience Scale is a 25-item self-report assessment tool that measures the degree of individual resilience focusing on positive psychological characteristics instead of deficits. Research suggests that resilience is a necessary trait for undercover police officers, as such, a critique of the instrument was deemed to be relevant within the context of this thesis. The instrument was also administered in the battery of questionnaires as part of the research project.

Taking forward some of the recommendations from the systematic literature review, Chapter 4 presents an empirical study which aimed to explore the factors related to resilience, coping and detection avoidance strategies that enable police officers to be effective undercover. Officers' perceptions on their coping strategies, abilities to meet their job demands and to maintain secrecy/deception (both professionally and personally) given the undercover nature of the work they do, were also explored. This convergent mixed methods study used both quantitative and qualitative methodologies to explore these issues in a population of Portuguese police officers, from one police force. To provide some context, law enforcement in Portugal is the responsibility of three main bodies: Guarda Nacional Republicana (National Republican Guard); Polícia de Segurança Pública (Public Security Police); and Polícia Judiciária (Judicial Police). The Guarda Nacional Republicana is a

gendarmerie which mainly works out of major cities but in a large area of the Portuguese territory. Its mission consists of general security/safety and criminal investigation, as well as special units such as the national highway patrol, emergency protection and relief, national nature and environment protection, coastal control, fiscal action, security and state honour, and intervention (GNR, 2020). The Polícia de Segurança Pública (Public Security Police), is a civilian police force which works in larger urban areas. Its mission consists of prevention, criminal investigation, public order, administrative police, exclusive competencies and special competencies (PSP, 2020). The Polícia Judiciária (Judicial Police) (overseen by the Public Ministry), investigates the most serious criminal cases. Its mission is to develop and promote actions of prevention, detection and criminal investigation (Polícia Judiciária, 2017).

The thesis concludes in Chapter 5 with a discussion of the work presented, drawing together the main findings and limitations from each chapter. Implications for practice within police forces, ways in which psychologists can support and increase well-being in police officers, particularly officers with undercover assignments, and recommendations for future research are also presented.

CHAPTER 2

Resilience and coping in police officers: A systematic review

Note: This systematic literature review was presented at one conference through Review/Theoretical & Practice Oral Presentation.

Cajada, L. *Resilience and Coping in Police Officers: A Systematic Review*. Oral presentation at: Division of Forensic Psychology (DFP) Annual Conference 2019 sponsored by the British Psychological Society, held from June 18th to the 20th, 2019, Liverpool, England

Abstract

Law enforcement has been classified as one of the most stressful professions in the world. It has been demonstrated that if not managed effectively, stress has a significant negative impact on the physical health and psychological well-being of police officers. The current review aimed to examine the available literature regarding resilience and coping in police officers, when dealing with stress.

Scoping methods were employed to assess the need for the present review. A literature search was carried out on different databases (i.e., PsycINFO, Web of Science, ASSIA, NCJRS) and complemented with searches through an internet browser as well as hand searching of reference lists. Eighteen studies met the review's inclusion/exclusion criteria and achieved 'good' on the quality assessment tool.

Results do not entirely support the idea that police officers use mostly ineffective/negative coping strategies to deal with stress. Some studies suggested the most used strategies by their samples were problem-focused such as active coping, planning, and seeking social/instrumental support. The use of maladaptive coping strategies was also reported, however, most studies concluded that these were the least used. Studies investigating resilience concluded that police officers had generally high levels of resilience/hardiness.

Overall, the findings provided support to some of the extant literature on this topic. Positive, active and adaptive-related coping strategies appear to have a stress-buffering effect. Contrary to this, maladaptive coping strategies (e.g., negative distraction, escape, avoidance, blame, denial, drug/alcohol consumption) appear to be positively linked with the development of psychological and work stress, leading to burnout. The review highlighted the need for

more research in this area, suggesting robust study designs and specific aims to increase the evidence-base on resilience and coping in police officers.

Background

As mentioned in Chapter 1, law enforcement has been classified as one of the most stressful professions in the world (Anshel, 2000; Burke, 1998; Violanti & Aron, 1995). Investigation in Organisational Psychology reveals that stressors vary among different occupations (Jaramillo et al., 2005) even if some stressors are found to be more common than others. Generally, people who are flexible, adaptable, and have high self-esteem cope better with stress as opposed to people who are socially withdrawn, introverted, and anxious (Lawrence, 1984). In addition, people who are optimistic usually handle stress better in comparison to people who are pessimistic (Anshel, 2000).

The negative aspects of police work previously discussed in Chapter 1 (e.g., lack of respect from the public, threats of violence, shift work) as well as the symptoms and reactions, generated by excessive stress, experienced by police officers (e.g., worsening work performance, adverse psychological states, psychosomatic and physical problems) can, at times, lead officers to leave the profession (Burke, 1998; Jaramillo et al., 2005; Kroes, 1976). It is proposed that this happens due to factors associated with the symptoms described above (i.e., burnout), as well as length of service, perception of harassment, lack of participation in decision-making, job dissatisfaction, and lack of support from supervisors and colleagues (Picañol, 2009). Koper, Maguire, and Moore (2001) report that, historically, it is not unusual for organisations to fail to retain new police officers. For example, finding qualified police candidates and retaining them affects over half of the smaller police agencies and two-thirds of the larger agencies in the USA (Koper et al., 2001).

In essence, research has demonstrated that unmanaged stress has detrimental effects in the well-being of police officers (Balmer et al., 2014; LeBlanc et al., 2008), which has led researchers to shift their focus to the concepts of psychological resilience and coping. As

discussed in Chapter 1, these concepts explore why some people are able to endure acute stress and adversity without experiencing severe psychological impairment, while others, in the same circumstances, experience burnout (Balmer et al., 2014; Richardson, 2002).

Resilience.

Expanding on the discussion from Chapter 1, the different conceptualisations of resilience have defined it as a set of resources which include inherent and learnt skills, dynamic social support, and existential sources such as meaning-making and faith (Rosenberg & Yi-Frazier, 2016). There are models which have attempted to integrate the different aspects of resilience, including the Three Part Model of Psychological Resilience (deTerte, Stephens, & Huddleston, 2014) which was elaborated through a study with police officers. This model describes resilience as a combination of cognitions, behaviours and environmental factors. The cognitive component includes optimism, adaptive coping and self-efficacy of the individual in performing tasks when faced with adversity (deTerte et al., 2014). The behaviour component includes adaptive health practices, such as exercise, in reducing and alleviating mental health difficulties (deTerte et al., 2014). The environmental factors include social support, particularly support from colleagues. This model supports, therefore, the multidimensional nature of psychological resilience (deTerte et al., 2014). Following this conceptualisation, it appears that there is no particular characteristic that makes someone resilient, instead, there are multiple directions and approaches to resilience, which differ depending on the individual and their circumstance (Balmer et al., 2014; Newman, 2005). There are, however, a number of characteristics (protective and enabling factors), that resilient people share, and the existence or absence of these characteristics explain the different responses that individuals provide when facing stressful life events (Diehl & Hay, 2010).

Psychosocial resilience factors that are well-evidenced include dispositional attributes, family cohesion, as well as external support systems (Friborg, Hjemdal, Rosenvinge, & Martinussen, 2003). Some of the dispositional attributes found in resilient people are: hardiness; high self-esteem and self-efficacy; internal locus of control; positive view of self; optimism; sense of control and competence in their life; and use of active coping strategies (Balmer et al., 2014; Burke, Shakespeare-Finch, Paton, & Ryan, 2006; Diehl & Hay, 2010; Helmreich et al., 2017). The dimension of family cohesion includes the amount of family conflict, cooperation, loyalty and stability present in the individual's life (Friborg et al., 2003). Regarding external support systems, resilient people appear to benefit from social support, including external support from friends, intimacy in their relationships and the individual's own ability to provide support to others (Balmer et al., 2014; Earvolino-Ramirez, 2007; Friborg et al., 2003).

Fundamentally, psychological resilience has been defined as the ability to successfully cope and adapt when faced with stressors or adversity (Balmer et al., 2014; Pooley & Cohen, 2010). For the purpose of this review, police officers who have been exposed to stressful or traumatic situations and have not experienced significant impairment or developed psychological disorders can be defined as being resilient.

Coping.

Coping has been defined as the process of adaptation from the individual to the strains and demands produced by the environment in order to reduce overwhelming stress, through cognitive and/or behavioural responses (Bar-Tal & Spitzer, 1994; Beehr, Johnson, & Nieva, 1995; Bouchard & Theriault, 2003; Carmona, Buunk, Peiró, Rodríguez, & Bravo, 2006; Cohan & Bradbury, 1994; Larsson, Kempe, & Starring, 1988; Violanti, 1992).

Lazarus and Folkman (1984) defined coping as “realistic and flexible thoughts and acts that solve problems and thereby reduce stress” (p. 118) through an individual’s evaluation of a given event/situation. They argued that coping consists of three processes. The primary appraisal, which is the process of recognising a threat or the content of a situation; the secondary appraisal where the individual determines what can be done about the situation; and the third process which is the coping itself, meaning the response the individual gives when confronted with a stressor (Picañol, 2009).

According to social psychologists, similar to the concept of resilience, coping strategies can be regarded as situation-specific, meaning that an individual can consciously apply different coping methods depending on the situations and even within the same situation (Anderson, Litzenberger, & Plecas, 2002; Bouchard & Theriault, 2003; Carver & Scheier, 1994; Picañol, 2009).

Coping Styles.

A coping style has been defined as the tendency a person has to use particular coping behaviours/strategies (Carmona et al., 2006). Although these coping behaviours may change, people tend to use the same methods across situations and, therefore, they become a coping style which they are likely to use in the future (Picañol, 2009; Schwartz, Neale, Marco, Shiffman, & Stone, 1999). The most prevalent coping styles described in the literature are problem-focused coping, emotion-focused coping, cognitive-behavioural, escape, avoidance, and denial (Lazarus & Folkman, 1984; Picañol, 2009).

Patterson (2002) defined problem-focused coping as the strategy used when a person perceives that an event can be changed and, therefore, tries to manage or mend the stressful situation, through cognitive and/or behavioural means. In contrast, when using an emotion-focused coping strategy, the person perceives the situation as unchangeable and,

consequently, tries to reduce its emotional strain through modifying their own reaction to it (Anshel, 2000; Beehr et al., 1995; Bouchard & Theriault, 2003; Burke, 1998; Carver & Scheier, 1994; Picañol, 2009; Violanti, 1992).

The emotion-focused form of coping has as a potential feature of self-deception without the person's awareness (Lazarus & Folkman, 1984), which transforms the situation in a distortion of reality (Picañol, 2009). This means that the person avoids dealing with the stressor and with the anxiety produced by it, until the point where the situation becomes redefined and acceptable regardless of how it deviates from reality (Picañol, 2009). As such, research demonstrates that coping strategies can be, on one hand, tackling the problem and trying to find a solution to diminish or remove the stress or, on the other hand, avoiding the problem by ignoring it, dissociating from it or enduring it (e.g., through physical exercise) (Picañol, 2009).

Violanti (1992) also suggested that some people are able to use both coping strategies (problem-focused and emotion-focused coping), which can have a positive effect on the way they deal with stressors, by reducing them. This is because problem-focused coping can reduce the emotional experience, while emotion-focused coping can avoid negative feelings, which enables the person to use problem-solving strategies (Picañol, 2009).

There is, however, a consensus amongst researchers who have been studying coping in different situations and areas that the strategies of avoidance, wishful thinking, escape and denial as means of coping, have been linked to greater distress and burnout (Carver, Scheier, & Segerstrom, 2010).

Coping Styles adopted by Police Officers.

Law enforcement has not only been considered one of the most stressful occupations in the world, but also one where employees (i.e., police officers) report more physiological

problems (e.g., poor immunity, fatigue, increased heart rate) associated with stress (Picañol, 2009). Research indicates that a major contributing factor towards this is the use of ineffective coping strategies to deal with stress, among the police culture (Anshel, 2000).

Extant research in coping suggests that if an individual perceives that the coping strategy they use is effective, they will experience less distress. In contrast, when individuals perceive that their strategies are ineffective, the distress increases, regardless of the coping method (Bar-Tal & Spitzer, 1994). There are specific factors in the police culture which affect the way officers cope and these are subject to constant change (e.g., type of community they assist, demographics of the department) (Paoline, 2003). Moreover, factors such as personality, marital status, and life experience, can have an impact on the choice of coping strategy, when challenged by a stressor (Beehr et al., 1995; Violanti, 1992).

A study by Brown and Grover (1998) concluded that it is essential for police officers to feel in control of situations in order to be able to cope. This starts in their training at the police training college and follows when they enter the ranks as well as into their profession, where they learn how to suppress the display of emotions such as anger or fear in order to accomplish their job (Mearns & Mauch, 1998). This self-control serves the purpose of supporting the officers in making objective decisions instead of having their judgment clouded or biased. Indeed, officers are trained to stay focused and avoid any distractions that can impede the execution of their job in an objective way, whilst remaining alert in their surroundings and scanning the environment for possible threats (Larsson et al., 1988).

In 1982, Jackson and Maslach suggested that the most common coping strategies that police officers use to cope with stressors are emotion-focused, escape and/or avoidance. For example, one study concluded that the way police officers coped with the organisational environment was through avoiding contact with their managers and supervisors with a view to

‘escape’ from additional assignments that could generate extra stress (Terrill, Paoline, & Manning, 2003). This type of avoidance coping strategy makes individuals unable to confront situations, by either ignoring or turning away from the stressors, both from cognitive and behavioural perspectives. Emotion-focused coping can, therefore, work for a while, however, over time negative outcomes clearly demonstrate that this type of coping is not an effective strategy (Anshel, 2000), particularly for law enforcement officers.

Aims and Objectives

To date, there are no known systematic reviews looking at both resilience and coping in police officers. There are systematic reviews looking at resilience training programmes (e.g., Leppin et al., 2014), and at the effectiveness of resilience interventions (e.g., Huang et al., 2013), however, these do not review resilience traits and coping strategies in general and they are not specific to law enforcement populations. There is also one review, published at the end of 2018, that looks at concepts, measures, and predictive values of resilience among police officers (Janssens, van der Velden, Taris, & van Veldhoven, 2018), however, it does not look at coping strategies.

The current review aims to synthesise some of the literature on the factors associated with resilience and coping strategies that have been identified in populations of police officers (law enforcement), with a view to identifying themes in these areas and develop strengths-based profiles of officers. It is important to understand the strengths of police officers and the effective coping strategies they use which prevent them from burning out and leaving the profession.

The objectives of this systematic review are to identify, retrieve, evaluate and synthesise the available literature regarding resilience and coping in police officers. To that

end, the review aims to answer the following question: ‘How resilient are police officers and what coping strategies do they employ, when dealing with stress?’

Method

Sources of Literature

Prior to the beginning of this review, several databases were searched in order to identify existing or planned systematic reviews of a similar nature. To this end, a scoping exercise was performed on 1st August 2016, and updated on 10th March 2020, using the following keywords: resilience in police officers; resilience and coping in police officers; and coping in police officers. The searches were conducted in the databases below as well as in Google Scholar, and aside from The Campbell Collaboration (as described below), no reviews were identified:

-Cochrane database of systematic reviews

-The Campbell Collaboration Library of Systematic Reviews

Coping in police officers = 1 review identified, not relevant

The review (Patterson, Chung, & Swan, 2012) was not considered relevant as it looked at the available evidence regarding outcomes of stress management interventions provided to veteran police officers and recruits, instead of looking at resilience and coping strategies in police officers.

-Centre for Reviews and Dissemination (CRD)

-International Prospective Register of Systematic Reviews (PROSPERO)

The scoping exercise, and posterior update, did not identify any relevant systematic reviews which acted as validation for the need of this review. Following free text searches during the scoping exercise, a brief preliminary search was conducted using PsycINFO,

Applied Social Sciences Index and Abstracts (ASSIA) and Web of Science databases in order to establish the quantity and scope of the available literature for this review, as well as to evaluate the feasibility of conducting the review on the topic of resilience and coping in police officers. In addition, this search was used to generate and identify terms to be used in future searches that would be appropriate for the search strategy of the current review, attending to different spelling and wording used in different countries.

Search Strategy

A list of potential terms was initially developed through discussions with supervisors regarding this area of research and the aims of this review. Synonyms of the keywords were considered, as well as the different spellings of the terms considering that the search would not be restricted to particular countries.

The search combined terms relating to police, coping and resilience. Truncation (*) search symbols were used to ensure that variations for the search terms were captured when deemed appropriate such as for the keyword resilience (e.g., resilien* would capture resilience/resiliency/resilient), however, these were not used in the terms such as police to avoid the identification of articles containing terms such as policy. Boolean operators ‘AND’ (to combine terms and narrowing the search containing all the words identified) and ‘OR’ (to broaden the search and identify references containing any of the words entered) were also used where necessary. Subject headings were identified using the thesaurus function when this was available in the databases. Appendix A provides the original and updated search syntax for all databases. After the completion of each search, references were exported and saved to RefWorks, a reference management software. Figure 1 below outlines the identified search terms applied to the electronic databases.

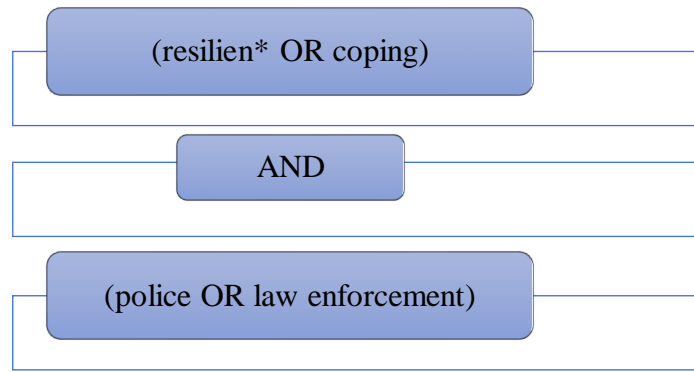


Figure 1. Search Terms

In order to identify articles that could potentially be included in the present review searches were undertaken, and recently updated, on the following dates and databases:

-PsycINFO (1967 to 2020), 22.04.18 = 434 hits + 10.03.20 = 92 hits

-Applied Social Sciences Index and Abstracts (ASSIA), 22.04.18 = 1,756 hits + 10.03.20 = 1,612 hits

-Web of Science (All databases), 22.04.18 = 631 hits + 11.03.20 = 378 hits

-National Criminal Justice Reference Service (NCJRS) Abstracts Database, 22.04.18 = 217 hits + 10.03.20 = 56 hits

Search parameters included articles written in English and dated between 2007 and 2020. These limits were defined to gather recent literature and due to time constraints required for translation of articles in other languages. With the intent of making the search strategy as complete as possible, the following steps were taken: reference lists of shortlisted articles were hand-searched to explore other potentially relevant articles, and hand searching was performed over several months using the Google Search Engine to identify potential articles that were not already covered. These searches identified several articles previously catalogued in the databases, as well as articles that did not meet the inclusion criteria. Four potentially relevant articles were identified.

Study Selection

Inclusion Criteria and PICO.

The inclusion and exclusion criteria for this review was developed based on the scoping exercise, discussions with the supervisors and the use of the PICOS (Population; Intervention/Exposure; Comparison; Outcomes; Study Design) framework. The PICOS framework is widely regarded as central in evidence-based practice and systematic reviews, as it empowers researchers to clearly define and focus their search strategy (Cooke, Smith, & Booth, 2012). Moreover, this framework is considered the most reliable method of question formulation for quantitative research and is endorsed by the Cochrane Collaboration (Cooke et al., 2012; Methley, Campbell, Chew-Graham, McNally, & Cheraghi-Sohi, 2014). Given that this research only focused on quantitative studies there was no need to search for alternative frameworks.

A screening and selection tool using PICOS inclusion and exclusion criteria was used to identify articles firstly based on their titles and abstracts and during the second stage based on full-text articles. The criteria can be found summarised in Table 1.

Table 1

PICOS and Inclusion/Exclusion Criteria

PICOS	Inclusion Criteria	Exclusion Criteria
Population	- Police Officers (≥ 100 participants)	- Police recruits/trainees - Any other professions (i.e., first responders, firefighters, military) - Students - Specific studies on female police officers
Intervention/exposure	- Stress	- Brain Correlates and Neuropsychology - Psychopathology (i.e., Suicidal Ideation, PTSD,

		Secondary Traumatic Stress, Depression, Substance Abuse)
Comparison	- None	
Outcomes	- Resilience - Coping	- Interventions/training programmes to increase resilience or coping ability - Psychological Capital
Study Design	- Quantitative studies (e.g., observational studies)	- Qualitative studies
Other	- Year of publication: 2007-2020 - Language: English	- Books/Chapters - Dissertations/Theses - Reviews - Editorials

The rationale for the inclusion/exclusion criteria with the PICOS framework was as follows:

Population. The focus of the current review was to explore resilience and coping in police officers, as this is a group of professionals who work as part of the criminal justice system and are inherently linked with the discipline of forensic psychology, which is the focus of this doctorate. The review excluded, therefore, articles where other professionals/students were included. It also excluded articles pertaining exclusively to female police officers, as the type of coping/resilience discussed in those articles was specific to the strain of being a woman in a predominantly male arena. Articles focusing on police recruits/trainees were also excluded as this review was focusing on police officers who had served some time and, as such, had been, in theory, more exposed to stress. Since most statisticians agree that ≥ 100 participants provide more meaningful results in studies (Bullen, 2014), articles included had populations of 100 or more participants in order to increase the robustness of the review.

Intervention/exposure. Due to the fact that most studies investigating resilience or coping in police officers also looked at stress, this was considered the main exposure variable

in the articles. Psychopathology or extreme stress (e.g., PTSD, depression, suicidal ideation) was, however, excluded from the review as the focus of the review was resilience and coping in police officers who are exposed to stress and are able to manage it to some extent. Articles of Neuropsychology were also excluded due to being deemed too specific for the interest of this review.

Comparison. There was no comparison in this review as the interest was on police officers' current levels of resilience and use of coping strategies.

Outcomes. The outcomes' variables of interest in this review as mentioned before were resilience and coping. There was no specific limit in terms of these variables as the review aimed to summarise different types of coping as well as different dimensions of resilience used by police officers. The aim was to investigate the officers' resilience and coping rather than interventions or training, which were excluded. The concept of psychological capital was also excluded from this review as this construct of positive organisational behaviour was deemed too broad due to the many dimensions that it measures, which were not included in the objectives of the review (i.e., hope, efficacy, and optimism).

Study design. This review focused on quantitative research using observational studies including cohort, longitudinal and cross-sectional studies as it intended to classify and summarise coping styles and levels of resilience to enable appropriate comparisons between studies. Due to this, qualitative research was excluded, as their categorisation of coping and resilience tends to be more subjective and broader.

The '**other**' category in the table served the purpose to specify some of the parameters mentioned previously including the limit in terms of years of publication and the English language, as well as the exclusion of literature found in books, dissertations/theses, reviews

and editorials. This review was limited to articles published in peer-reviewed and scientific journals, based on guidelines established for systematic literature reviews (Bryman, 2008).

The full screening and selection tool can be found in Appendix B. The updated search in the databases yielded a total of 5176 articles. 4 more articles were identified through hand searching and free searches on the search engine Google. Duplicates were removed from the searches, leaving 5148 articles to be screened. These studies were assessed using the tool and 5082 studies were excluded based on their title/abstract. It was not possible to retrieve 3 articles in full-text (Appendix C), as such these were excluded from further assessment and are not represented in the figure below. Sixty-three articles were retrieved in full-text, via the University of Birmingham e-library and were assessed further using the screening tool before proceeding to the quality assessment stage. Twenty-six articles were then quality assessed and a further 8 were excluded due to obtaining scores below Good (<67%). Eighteen articles were included in the final review. The study selection process is represented in Figure 2. A list of studies excluded at the final stages and the reasons for their exclusion can be found in Appendix D.

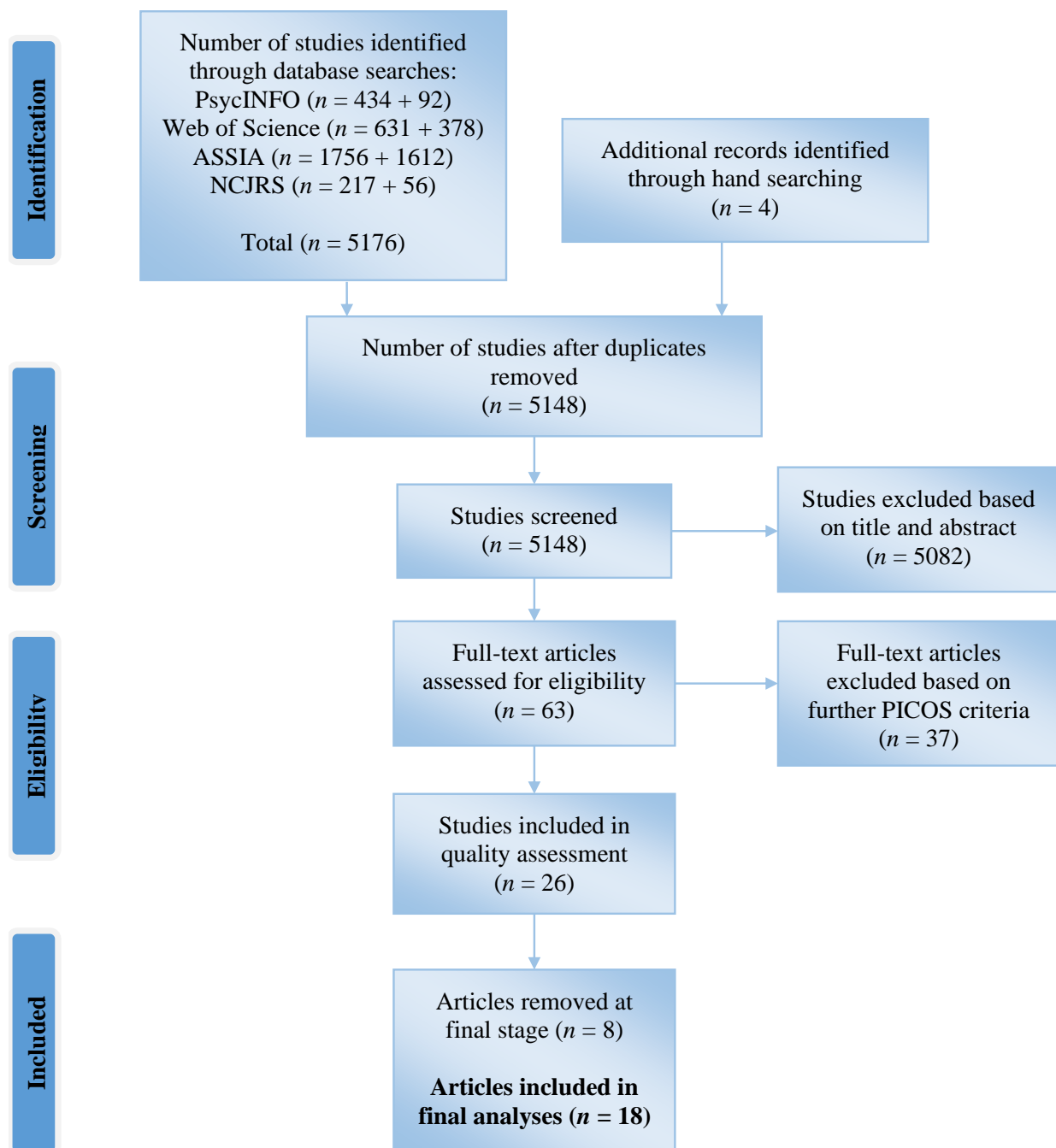


Figure 2. Flow Chart of Study Selection Process

Quality Assessment.

Due to the nature of systematic reviews, it is necessary to assess the quality of the articles to be included with a view to enhancing the credibility of the results (Sanderson, Tatt,

& Higgins, 2007). A quality assessment tool was developed in order to evaluate the 26 studies that remained following the assessment with the screening and selection tool.

The quality assessment tool (Appendix E) was combined and adapted to fit this review from known quality assessment tools used in other systematic reviews (e.g., Louw, Morris, & Grimmer-Somers, 2007; Wong, Cheung, & Hart, 2008). It also included tools developed by methodologists from the National Heart, Lung, and Blood Institute (NHLBI) and the Research Triangle Institute International as well as from the Risk of Bias tool developed by the Cochrane Collaboration (Higgins & Green, 2011). The tool followed guidance available for systematic reviews (Greenhalgh & Brown, 2017) and was designed to assist the reviewer in focusing on concepts that were key for critical appraisal of the internal validity of a study.

The tool included nine items for identifying and evaluating methodological weaknesses and potential biases (e.g., subject selection, reporting, analysis), study power, and other factors relevant to the study design included in this review (i.e., observational studies). The reviewer could select "yes" (1) "no" (0) or "cannot determine (CD)/not reported (NR)/not applicable (NA)" (0) in response to each item on the tool. For each item where "no/CD/NR/NA" was selected, the reviewer had to consider the potential risk of bias that could be introduced by that flaw in the study design or implementation and, as such, award a score of 0 to that item. Guidelines and significance for rating the tool can be found in Appendix F. The total score of each assessment was divided by the total number of items and multiplied by 100 to achieve a percentage and make comparisons easier.

The quality of all studies was assessed and a summary can be found in Appendix G. A list of the final articles that remained in the review can be found in Appendix H. For inter-rater reliability, three of the selected studies were independently rated by a qualified psychologist, who obtained the same ratings as the author of this review ($k = .813, p < .005$).

As suggested by the authors of the original tools, studies that scored from 0%–33.9% were considered poor ($n = 0$), 34%–66.9% were considered fair/moderate ($n = 8$), and 67%–100% were interpreted as good ($n = 18$). A decision was made to exclude any article below the classification of good (<67%) to ensure a high-quality standard of the articles reviewed. On this basis, eight studies were excluded at the stage of quality assessment and eighteen studies were included in the review.

Data Extraction.

A full list of the studies excluded at the final stage with reasons for exclusion can be found in Appendix D. A data extraction form was used with the intent of extracting the most relevant information from each included article in a consistent manner (Appendix I). A mix of general and specific information was extracted to include the key characteristics of the articles as well as the outcomes relevant to the aims of the present systematic review. The data extraction focused on the following:

- General information (title, author, year, study location (i.e., country))
- Study characteristics (hypotheses, aims, population size, mean age (including SD), type of police, type of measures)
- Findings and main conclusions pertaining to the outcome variables (i.e., resilience and coping).

Results

Data were synthesised from studies meeting the inclusion criteria and quality assessed above 67% (Good). A summary of the quality assessment scores for each study can be found in Appendix G.

The following table (Table 2) summarises the population, mean age, the hypotheses being tested/aims of the study, the measure(s) of resilience and/or coping used, and the resilience/coping-related results, for each study. This table does not explore the overall results of the studies due to the fact that not all of the studies were interested in measuring solely resilience or coping, as can be seen from the titles of the articles in Appendix H. This review will focus on resilience and coping strategies of police officers and will mention further links that might be explored in the articles in question, only when these links add to the understanding of the topic being explored.

Table 2

Data Summary of Final Studies (n = 18)

Authors and Year of Study <i>(Assessed Quality)</i>	Sample Police type (Country)	Mean age (SD)	Aim/Hypotheses Study Design	Measure(s) of Resilience/ Coping used	Resilience/Coping-related Results
Acquadro Maran et al., 2014 (77.8%)	485 Patrol police officers (Italy)	45.47 years (range 21–65)	To carry out a study to analyse unease and perceived stress in a population of male and female police officers in a large city in northern Italy and investigate the consequences of these and the coping strategies adopted. Design: Cross-sectional mixed methodology	Brief COPE	Active coping, planning and acceptance were the strategies used most across genders. Emotional and instrumental support, venting and religion were used more by female officers than by their male counterparts. Male officers used active coping, planning, instrumental support, positive reframing and humour as well as avoidance of problems, denial and self-blame.
Acquadro Maran et al., 2015 (77.8%)	617 Patrol police officers (Italy)	Not reported	To measure the level of stress experienced, the consequences in terms of anxiety and the coping strategies adopted in a sample of police officers working in a large city in northern Italy. Design: Cross-sectional	Brief COPE	Active coping, planning and acceptance strategies were those used the most across genders, roles and sectors. In the Operational Service, male officers adopted self-blame and negation coping strategies. In the Interior Department, male executives used religion as

Authors and Year of Study <i>(Assessed Quality)</i>	Sample Police type (Country)	Mean age (SD)	Aim/Hypotheses Study Design	Measure(s) of Resilience/ Coping used	Resilience/Coping-related Results
Acquadro Maran, Zedda, & Varetto, 2018 (77.8%)	531 266 Outdoor patrol officers 214 Indoor patrol officers 51 unknown sectors (Italy)	40.45 years (SD = 6.80, range 25–59) 41.85 years (SD = 9.45, range 21–65)	To investigate the nature of stressors (operational and organisational) in Italian Patrol Police Officers, their consequences in terms of anxiety and the coping strategies adopted. Hypothesis 3: Outdoor Patrol Officers are prone to use, more than Indoor Patrol Officers, coping strategies oriented to excessive display of emotions, escape and psychological detachment from organisational and occupational stressful events. Design: Cross-sectional	Brief COPE	coping while male officers used adaptive planning. Female non-commissioned officers used an active venting coping strategy and self-distraction. Active coping, acceptance and planning were the most common strategies used by all Patrol Police Officers. The Hypothesis 3 was partially confirmed: Outdoor Patrol Officers appeared better equipped to change their attitude to work but they do not tend to use coping strategies oriented to excessive display of emotions. At the same time, they are prone to use escape and psychological detachment from stressful events.

Authors and Year of Study	Sample	Mean age (SD)	Aim/Hypotheses	Measure(s) of Resilience/ Coping used	Resilience/Coping-related Results
<i>(Assessed Quality)</i>	Police type (Country)		Study Design		
Balmer, Pooley, & Cohen, 2014 (77.8%)	285 8 participants were excluded due to missing data Western Australian police officers (Australia)	Range 18–46+ years	To examine the relationships between resilience, coping style, self-reported psychological functioning and demographic variables. Design: Cross-sectional	Resilience Scale for Adults (RSA) Coping Styles Questionnaire (CSQ)	Resilience was found to be predicted by greater use of rational coping and less use of emotional coping, but not by psychological functioning, detached or avoidance coping. Resilience was found to be negatively affected by increased rank, age and length of service, which is inconsistent with previous studies. All demographic variables were found to influence the coping styles used by police officers. Female police officers used emotional coping strategies significantly more than male officers, whilst male officers relied on detached coping significantly more than female officers. The use of emotional and avoidance coping was found to increase with longer employment, older age and higher rank.

Authors and Year of Study <i>(Assessed Quality)</i>	Sample Police type (Country)	Mean age (SD)	Aim/Hypotheses Study Design	Measure(s) of Resilience/ Coping used	Resilience/Coping-related Results
Briones Mella & Kinkead Boutin, 2013 (77.8%)	338 Special units of a Valparaíso's Chilean National Police (Chile)	Range 20–49 years	To examine the relationship between several dimensions of the burnout syndrome with certain stress-coping strategies, seniority level and marital status in male staff from National Police in Valparaíso. Design: Cross-sectional	COPE Inventory	Coping strategies focusing on emotion were those preferably used for positive reinterpretation and personal growth, acceptance and religion. The most employed strategies centred on the problem were, planning, active coping, seeking social and instrumental support. The strategies less used by the sample were those defined as dysfunctional (e.g., denial, behavioural disengagement and alcohol and drug consumption). Coping strategies were used in parallel, and in general were not mutually exclusive.

Authors and Year of Study	Sample	Mean age (SD)	Aim/Hypotheses	Measure(s) of Resilience/ Coping used	Resilience/Coping-related Results
<i>(Assessed Quality)</i>	Police type (Country)		Study Design		
Brough, Drummond, & Biggs, 2018 (88.9%)	2,481 Police service employees of Queensland (Australia)	41.21 years (SD = 9.09, range 20–71)	To explain how work-related resources impact the mediation of coping on the associations between work demands and psychological outcomes. Design: Longitudinal	14-item modification of the Cybernetic Coping Scale (CCS)	Both cognitive and emotional job demands increased work engagement over time by increasing accommodation coping for employees with low supervisor support. The same was the case between emotional job demands and low levels of job control. Coping is an important strategy for ameliorating the negative effects of job demands on outcomes when levels of supervisor support and control are deficient.

Authors and Year of Study (Assessed Quality)	Sample Police type (Country)	Mean age (SD)	Aim/Hypotheses Study Design	Measure(s) of Resilience/ Coping used	Resilience/Coping-related Results
Daderman & De Colli, 2014 (88.9%)	101 Police officers (Sweden)	33 years (SD = 8, range 22–62)	<p>To explore the sense of coherence (SOC) and the coping resources possessed by police officers, that is, their different abilities to manage and recover from stress.</p> <p>Hypothesis: Swedish police officers providing on-the-beat service will have a stronger SOC and higher values of CRI than comparison samples, because they must undergo a special education in fundamental police tactics that include stress management and the development of communication skills.</p> <p>Design: Cross-sectional</p>	Coping Resources Inventory (CRI)	Swedish police officers have higher values of SOC and CRI than those of comparison groups (American normative group). There were no gender differences in the CRI scales. The officers, however, had low values for spiritual/philosophical resources for coping with stress.

Authors and Year of Study	Sample	Mean age (SD)	Aim/Hypotheses	Measure(s) of Resilience/ Coping used	Resilience/Coping-related Results
<i>(Assessed Quality)</i>	Police type (Country)		Study Design		
Fyhn, Fjell, & Johnsen, 2016 (88.9%)	156				
	78 Police investigators of assault crime	43 years (SD = 8.23)	To explore the role of individual and contextual buffers against the effects of work stress among police investigators of sexual and physical assault, as well as investigators of other, less offensive crime, such as financial or environmental crime.	Dispositional Resilience Scale 15-R	The results, provided support for both hypotheses. Psychological hardiness correlated strongly with the other predictors and contributed uniquely to explain the variance in burnout. The commitment dimension is seemingly a particularly important resilience factor.
	78 Forensics, investigators of fire, financial or environmental crime (Norway)	40 years (SD = 7.07)	Hypotheses: Hardiness (factor in resilience) will predict the variance in burnout among police investigators beyond that of traditional buffers against stress, namely social support, work engagement and meaningfulness. Investigators of assault crime will report higher levels of hardiness. Design: Cross-sectional		

Authors and Year of Study <i>(Assessed Quality)</i>	Sample Police type (Country)	Mean age (SD)	Aim/Hypotheses Study Design	Measure(s) of Resilience/ Coping used	Resilience/Coping-related Results
Galanis et al., 2019 <i>(88.9%)</i>	336 Police officers (Greece)	33.8 years (SD = 8.0)	To measure occupational stress among police officers and to investigate occupational stress risk factors. Design: Cross-sectional	Brief COPE	The most frequently used coping strategy was the problem-focused strategy, the second one was the emotion-focused strategy and the last one was the avoidance-focused strategy. Moreover, increased use of a negative or maladaptive coping strategy such as avoidance, increases occupational stress.
Gershon et al., 2009 <i>(100%)</i>	1,072 Police officers (USA)	36 years (range 20–66)	To examine the impact of a wide range of police stressors on potential health outcomes while controlling for various coping strategies in a large sample of urban police officers. Design: Cross-sectional	14-item modification of the Coping Scale and the Police Coping Scale	Avoidant coping in the presence of high stress not only was ineffective but also led to increased scores on anxiety and burnout measures. Officers who used problem-solving and faith-based coping strategies reported lower perceived stress.

Authors and Year of Study (Assessed Quality)	Sample Police type (Country)	Mean age (SD)	Aim/Hypotheses Study Design	Measure(s) of Resilience/ Coping used	Resilience/Coping-related Results
Kaur, Chodagiri, & Reddi, 2013 (88.9%)	150 Constables and head constables (India)	42 years	To explore the relationship between personality traits, coping methods, and psychological stress in police personnel. Design: Cross-sectional	Coping Checklist-1 (CCL-1)	The most commonly used coping methods in the whole of the study sample were social support, acceptance/redefinition and problem-solving. Negative distraction and denial/blame showed statistically significant association with the development of psychological distress.
Lipp, 2009 (77.8%)	418 Senior police officers (Brazil)	42.06 years (SD = 9.55, range 24–69)	To examine levels of occupational stress, quality of life, work-related stressors, and coping strategies among senior police officers in Brazil. Design: Cross-sectional	Stress Coping Questionnaire (SCQ)	The most adopted coping strategy to deal with occupational stress was family and social support (used mainly by males), followed by taking action regarding health – such as seeking medical care (used mainly by females). Spending time in hobbies, using a chemical substance to deal with tension and using psychotherapy were also reported by respondents. Participants without stress used family support; had hobbies; and

Authors and Year of Study <i>(Assessed Quality)</i>	Sample Police type (Country)	Mean age (SD)	Aim/Hypotheses Study Design	Measure(s) of Resilience/ Coping used	Resilience/Coping-related Results
					sought health care more often than stressed police officers.
Morash et al., 2008 (77.8%)	676 Police officers (South Korea)	Cannot determine	To extend and expand the prior work in the United States to South Korea and to investigate the contributions of workplace problems, perceptions of negative police community relations, attitudes towards women in the workplace, coping resources, and coping strategies for the prediction of stress. Design: Cross-sectional	Measures of coping resources and strategies adapted from Haarr and Morash (1999)	None of the measured coping strategies and resources appeared to reduce (moderate) the effects of stressors, however, support from superiors had a modest direct association with lower levels of stress.
Mushwana, Govender, & Nel, 2019 (88.9%)	104 Police officers (South Africa)	Cannot determine	To investigate stress and the coping mechanisms used by police officers. Design: Cross-sectional	COPE Inventory	Respondents were more likely to use problem-focused coping strategies than emotionally-focused coping strategies and avoidance coping strategies, when addressing stress.
Padyab, Backteman-Erlanson, & Brulin, 2016 (88.9%)	856 Patrolling police officers (Sweden)	34 years (SD = 7, for women) and 40 years	To investigate the association between burnout [emotional exhaustion (EE) vs. depersonalisation (DP)] and psychosocial work environment,	40-item modification of the Ways of Coping	Women scored higher on all coping behaviours (except for psychological distancing which was marginally significant). Coping strategies were seen as a

Authors and Year of Study <i>(Assessed Quality)</i>	Sample Police type (Country)	Mean age (SD)	Aim/Hypotheses Study Design	Measure(s) of Resilience/ Coping used	Resilience/Coping-related Results
		(SD = 11, for men)	stress of conscience, as well as coping strategies, among patrolling police officers in Sweden. Design: Cross-sectional	Questionnaire (WOCQ)	confounder and were related to lower EE as well as DP. Positive reappraisal was found to be a protective factor from DP.
Singh, 2017 (77.8%)	240 Police personnel – officers, sub-inspectors, and constables (India)	Not reported	To investigate the level of coping strategies among different groups of police employees and to find out the relationship between work stress and coping. Design: Cross-sectional	COPE Inventory	The different groups of police personnel differed on various forms of coping response, in which officers used more active- and adaptive-related coping strategies than sub-inspectors and constables, respectively. Constables used more maladaptive coping strategies than sub-inspectors and officers. Correlation results showed that active- and adaptive-related coping responses have an inverse link with work stress, whereas maladaptive coping responses have a positive relationship with work stress.

Authors and Year of Study (Assessed Quality)	Sample Police type (Country)	Mean age (SD)	Aim/Hypotheses Study Design	Measure(s) of Resilience/ Coping used	Resilience/Coping-related Results
Violanti et al., 2014 (88.9%)	337 Police officers (USA)	40.9 years (SD = 6.4)	To explore the association between specific types of police stress and work absence, and whether resiliency (e.g., hardiness) modifies this association. Design: Cross-sectional	Dispositional Resilience Scale 15-R	Hardy individuals, particularly those with high scores on the challenge dimension, may use 1-day absences as a positive coping strategy. Contrary to the expectations, work absence lasting at least three consecutive days (involuntary) appears only among those with a high hardiness score or a high score on the commitment dimension of hardiness.
Yun et al., 2013 (77.8%)	570 Police officers (South Korea)	46.1 years (SD = 7.27, range 25–60)	To examine the generalisability of police stressors with regard to stress-related somatisation symptoms among a sample of South Korean police officers. Moderating effects of coping strategies and resources are also assessed. Design: Cross-sectional	13-item modification of the Police Coping Scale	Contrary to studies conducted in the USA and other western countries, none of the coping strategies and coping resources exhibited moderating effects in the current study. They did serve as mediators linking the nexus between work-family conflict and somatisation symptoms. The officers in the sample seem to employ mostly destructive coping techniques.

Study Settings and Populations

The location of the studies included in the current review and the ethnicity of the participants varied. Within the European context, three articles included in this review resulted from one study conducted in Italy and, therefore, the samples overlap despite having different numbers of participants (Acquadro Maran, Varetto, Zedda, & Franscini, 2014; Acquadro Maran, Varetto, Zedda, & Ieraci, 2015; Acquadro Maran et al., 2018). Two studies were conducted in Sweden (Daderman & De Colli, 2014; Padyab, Backteman-Erlanson, & Brulin, 2016), one in Norway (Fyhn, Fjell, & Johnsen, 2016) and one in Greece (Galanis et al., 2019). From the rest of the world, two studies were conducted in each of the following countries: Australia (Balmer, Pooley, & Cohen, 2014; Brough et al., 2018); USA (Gershon et al., 2009; Violanti et al., 2014); India (Kaur, Chodagiri, & Reddi, 2013; Singh, 2017); and South Korea (Morash et al., 2008; Yun, Kim, Jung, & Borhanian, 2013). One study was undertaken in Brazil (Lipp, 2009), one in Chile (Briones Mella & Kinkead Boutin, 2013) and one in South Africa (Mushwana et al., 2019). Regarding the ethnicity of the participants, only five studies reported this information, two from the USA, two from South Korea and one from South Africa. Gershon et al. (2009) reported that 64.6% of participants were White, without mentioning any other ethnicity, while Violanti et al. (2014) reported 77% of participants were White, 21% were Black and 1.5% were Hispanic. Morash et al. (2008), as well as Yun et al. (2013), reported that all participants were Asian of Korean heritage. Mushwana et al. (2019) reported that 87.4% of participants were Black, 8.7% were Indian, 5.8% were White and 4.8% were Mixed Race. In all of these studies, the ethnicity variable was not explored further or linked to the other variables under examination.

In the studies reviewed the sample sizes ranged from 101 (Daderman & De Colli, 2014) to 2481 (Brough, Drummond, & Biggs, 2018). The size of the total sample across all

eighteen studies was 9753 ($M = 541.83$). The samples comprised of 6838 males and 2864 females. Acquadro Maran et al. (2018) did not report the gender of 51 participants and excluded them from the analysis due to missing variables.

All studies used adult participants. Four of the studies did not explicitly report age details in relation to the samples (Acquadro Maran et al., 2015; Morash et al., 2008; Mushwana et al., 2019; Singh, 2017). Two of the studies reported the range of ages only [Balmer et al., 2014 (range 18-46+); Briones Mella & Kinkead Boutin, 2013 (range 20-49)]. The mean age of the samples from the remaining twelve studies was 39.99 years.

All participants were police officers. Some studies specified the type of police initially under the participants section, such as patrol police officers (Acquadro Maran et al., 2014, 2015, 2018; Padyab et al., 2016), officers from special units (Briones Mella & Kinkead Boutin, 2013), police investigators of assault crime, forensic investigators of fire, financial or environmental crimes (Fyhn et al., 2016), constables and head constables (Kaur et al., 2013) as well as officers, sub-inspectors and constables (Singh, 2017). One study specified the entire sample was composed of high-ranking police officers (Lipp, 2009). Other studies included more information regarding the police rank and the length of service as control variables or in the results.

Balmer et al. (2014) reported the rank of their participants ranged from constables, senior constables, sergeants to higher ranks, and the length of service ranged from 1-10, 11-20 and 21+ years. Daderman and De Colli (2014) reported the mean duration of service was 5.4 years ($SD = 9$). Galanis et al. (2019) reported the ranks of their participants were constables and sergeants, while the length of service was 12.7 years ($SD = 7.1$). Gershon et al. (2009) reported the average tenure of the officers was nearly 12 years, with a range of less than 1 to 44 years on the force. Morash et al. (2008) reported the length of service ranged from 1-5

where 1 = less than five years and 5 = more than twenty years, and the rank ranged from patrol officer, sergeant, lieutenant to captain. Mushwana et al. (2019) reported the rank of their participants ranged from constable, sergeant, inspector, captain to colonel. Singh (2017) reported the participants' ranks were officers, sub-inspectors and constables, across two levels of job tenure: short job tenure (below 10 years) and long job tenure (above 10 years). Violanti et al. (2014) reported the rank of the participants ranged from patrol officer, sergeant/lieutenant, to captain/detective, and the average length of service was 14.3 years (SD = 6.6). Finally, Yun et al. (2013) reported the rank of the participants ranged from policeman, senior police, sergeant, lieutenant to captain, and the average length of service was 19.24 years (SD = 7.75). Acquadro Maran et al. (2015, 2018) also made a distinction between officers from the operational service (outdoor patrol officers) and the interior department (indoor patrol officers).

Aims and Hypotheses

The aims and hypotheses of the included studies are summarised in Table 2, and, as demonstrated, in all articles coping and/or resilience was examined within populations of police officers, even though no study examined these variables exclusively. Specific hypotheses varied to some extent, as did the other variables under examination. Heterogeneity in study aims and designs is a common issue faced when conducting systematic reviews of observational studies (Maguire, Hemming, Hutton, & Marson, 2008), which is the case of the studies included within this review.

The main aim of four studies (Brough et al., 2018; Gershon et al., 2009; Lipp, 2009; Singh, 2017) included in this review was to explore and examine the association between types of stress derived from the work in the police, the psychological outcomes resulting from the stress and the coping strategies employed by police officers to cope with stress. Two other

studies (Fyhn et al., 2016; Violanti et al., 2014) were essentially examining the same variables except instead of measuring the coping strategies in relation to stress, they were investigating whether resilience or hardiness (factor in resilience) modified the association between the other variables and buffered against the negative effects of stress. Two other studies (Galanis et al., 2019; Mushwana et al., 2019) investigated occupational stress and the coping mechanisms police officers use to deal with stress. Galanis et al. (2019) also examined risk factors.

The main aim of three studies (Acquadro Maran et al., 2014, 2015, 2018) was to measure the level of stress experienced by police officers, the consequences of the stress (particularly anxiety) and the coping strategies adopted by the participants to deal with stress. One other study (Kaur et al., 2013) explored the relationship between personality traits, coping methods and psychological stress.

Two studies (Briones Mella & Kinkead Boutin, 2013; Padyab et al., 2016) examined the relationship between burnout from work stress and coping strategies employed by the officers. The first study also considered seniority level and marital status, whilst the second study focused additionally on depersonalisation and stress of conscience. One study's (Daderman & De Colli, 2014) main aim was to explore the sense of coherence and the coping resources possessed by police officers.

One study (Morash et al., 2008) sought to expand prior work from another country and to investigate workplace problems, perceptions of negative police-community relations, attitudes towards women in the workplace and the coping strategies employed to the prediction of stress. The main aim of another study (Yun et al., 2013) was to examine the generalisability of police stressors regarding somatisation symptoms and the moderating effects of the coping strategies employed. Only one study (Balmer et al., 2014) included both

variables of interest in the present review, by examining the relationship between resilience, coping style, psychological functioning and demographic variables in a sample of police officers.

Three studies presented specific hypotheses pertaining to the variables under the current review. Acquadro Maran et al. (2018) hypothesised that outdoor patrol officers would be more prone to use coping strategies oriented to an excessive display of emotions, escape and psychological detachment from organisational and occupational stressful events. Daderman and De Colli (2014) hypothesised that officers providing on-the-beat service would have a stronger sense of coherence and higher values of coping responses than comparison samples due to their special police training. Fyhn et al. (2016) hypothesised that hardiness would predict variance in burnout among police investigators beyond that of traditional buffers against stress (e.g., social support; meaningfulness). They also hypothesised that investigators of assault crime would report higher levels of hardiness.

Measures of Coping and Resilience

The studies varied in the tools used to measure coping and/or resilience. The tools used across studies to measure coping were as follows: COPE Inventory (Carver, Scheier, & Weintraub, 1989); Brief COPE (Carver, 1997); Coping Resources Inventory (CRI) (Marting & Hammer, 1988); 40-item modification of the Ways of Coping Questionnaire (WOCQ) (Folkman & Lazarus, 1988); Coping Styles Questionnaire (CSQ) (Roger, Jarvis, & Najarian, 1993); 14-item modification of the Cybernetic Coping Scale (CCS) (Edwards & Baglioni, 1993); Coping Checklist-1 (CCL-1) (Rao, Subbakrishna, & Prabhu, 1989); Stress Coping Questionnaire (SCQ) (based on Girdano & Everly (1986) categories of coping strategies); 14-item modification of the Coping Scale (Billings & Moos, 1981) and the Police Coping Scale

(Beehr et al., 1995); 13-item modification of the Police Coping Scale (Beehr et al., 1995); and measures of Coping Resources and Strategies (adapted from Haarr & Morash, 1999).

The tools used to measure resilience/psychological hardiness were the Dispositional Resilience Scale 15-R (Bartone, 1995) and the Resilience Scale for Adults (RSA) (Friborg et al., 2003). Some of these tools were adapted to the language of the country where the studies took place, however, the questions remained the same unless otherwise specified (e.g., scales that suffered item modifications).

The COPE Inventory (Carver et al., 1989), is a 60-item self-report measure of 15 stress-coping strategies referring to the frequency by which the person performs certain behaviours in different situations. The instrument is divided into two main groups with five and ten subscales per group and four items per subscale with each item rated on a 4-point Likert type scale. Problem-centred strategies assessed are: active coping; planning; search for instrumental social support; suppression of distracting activities; and restraining from coping. Emotion-focused strategies assessed are: seeking emotional social support; religion; positive reinterpretation and personal growth; humour; acceptance; denial; focus on emotions; behavioural disengagement; emotional disengagement as well as alcohol or drug consumption. This measure was used in three articles included in this review (Briones Mella & Kinkead Boutin, 2013; Mushwana et al., 2019; Singh, 2017). The first study used an adapted version of this scale in Spanish (Crespo, Cruzado, & Vásquez, 1997). This scale has demonstrated a good internal consistency, having a Cronbach's alpha between 0.45 and 0.92 for different ways of coping, and demonstrating construct validity (Crespo et al., 1997). Mushwana et al. (2019) reported that the scale has a Cronbach's alpha of 0.88.

The Brief COPE (Carver, 1997), is a 28-item self-report measure which assesses 14 coping strategies that individuals use under stressful conditions: self-distraction; denial; active

coping; substance use; instrumental support; emotional support; venting; behavioural disengagement; positive reframing; acceptance; planning; humour; religion; and self-blame. Respondents rate each item using a 4-point Likert type scale to assert the frequency by which they would use each strategy. An adapted version of this scale in Italian (Conti, 1999) was used in three articles included in this review (Acquadro Maran et al., 2014, 2015, 2018). The scale demonstrated a good internal consistency, achieving a Cronbach's alpha of 0.80 in the study which originated the articles. Another adapted version of this scale in Greek (Kapsou, Panayiotou, Kokkinos, & Demetriou, 2010) was used in one study in this review (Galanis et al., 2019). The scale achieved a Cronbach's alpha of 0.86 in the study, indicating very good reliability.

The Coping Resources Inventory (CRI; Marting & Hammer, 1988) is a 60-item self-report questionnaire developed to identify a person's currently available resources for managing stress, instead of examining deficiencies in coping resources. The measure is divided into five types of resource: cognitive resources (9 items); social resources (13 items); emotional resources (16 items); spiritual/philosophical resources (11 items); and physical resources (11 items). Respondents rate each item on a 4-point Likert type scale that specifies how often a person has engaged in certain behaviours in the past six months. Higher scores are indicative of better resources for coping. An adapted version of this scale in Swedish (Ekecrantz & Norman, 1991) was used in one study included in this review (Daderman & De Colli, 2014). The scale has demonstrated an internal consistency ranging from acceptable to excellent, with a Cronbach's alpha of 0.91 for the total original scale, and 0.56-0.87 for the types of resources. The test-retest reliability is 0.73. The internal consistency of the global measure was 0.90 in the study included in the review, with 0.62 for cognitive resources, 0.75

for social resources, 0.83 for emotional resources, 0.64 for spiritual/philosophical resources, and 0.80 for physical resources.

The Ways of Coping Questionnaire (WOCQ; Folkman & Lazarus, 1988) is a 66-item self-report questionnaire that describes a broad range of thoughts and behaviours people can use to manage stressful situations. The measure was based on the transactional model of stress and emotion (TMSE) elaborated by Lazarus and Folkman (1984). An adapted version of this scale (Backteman-Erlanson, Brulin, & Padyab, 2015) was used in one study included in this review (Padyab et al., 2016). It is unclear whether the measure was translated into Swedish. For the purposes of this study a six-factor solution with 40 items, rated on a 4-point Likert type scale, was used in accordance with results from the confirmatory factor analysis (CFA) which demonstrated reasonable fit indices: RMSEA = 0.0606; CFI = 0.939; and GFI = 0.886. The subscales of the measure consist of: Psychological Distancing (PD_i, 17 items); Planful Problem Solving (PP_s, 9 items); Confronting Coping (CC_o, 3 items); Self Controlling (SC_o, 3 items); Wishful Thinking (WTh, 4 items); and Positive Reappraisal (PoRe, 4 items). A total score is achieved by adding the score of each item on each subscale. High scores indicate that the person often uses the behaviour described by that subscale to cope with stressful events. The scale has demonstrated good construct reliability values for PD_i = 0.89, PP_s = 0.79, CC_o = 0.72, WTh = 0.74, SC_o = 0.63, PoRe = 0.75.

The Coping Styles Questionnaire (CSQ; Roger et al., 1993), is a 60-item self-report questionnaire used to measure coping strategies through rating the frequency by which the person uses a given coping strategy on a 4-point Likert type scale. The CSQ is composed of four subscales that measure four primary coping styles: rational; emotional; avoidance; and detached. The scale has demonstrated an internal consistency ranging from acceptable to good

with coefficient alphas ranging from 0.66 to 0.81. The test-retest reliability is reported to be 0.74-0.85. This measure was used in one study included in this review (Balmer et al., 2014).

Brough, O'Driscoll, and Kalliath (2005) adapted the Cybernetic Coping Scale (CCS; Edwards & Baglioni, 1993) to a 14-item self-report questionnaire used to measure a range of generic responses related to coping behaviours at work, not associated to specific situations. Participants are asked to rate how often they use each item to help them cope with their general work stress on a 7-point scale. The measure consists of five subscales: change the situation (2 items); accommodation (2 items); devaluation (4 items); avoidance (4 items); and symptom reduction (2 items). High scores are indicative of high levels of coping. The scale has demonstrated acceptable to very good reliability with Cronbach's alpha ranging from 0.69 in the symptom reduction subscale to 0.90 in the devaluation subscale. This measure was used in one study included in this review (Brough et al., 2018).

The Coping Checklist-1 (CCL-1; Rao et al., 1989), is a 70-item self-report measure which describes a broad range of behavioural, emotional and cognitive responses that may be used to handle stress. The measure contains three scales and seven subscales: problem-focused scale includes one subscale (problem-solving); emotion-focused scale includes five subscales (distraction positive methods, distraction negative methods, acceptance/redefinition, religion/faith and denial/blame); problem and emotion-focused scale includes one subscale (social support). Items are scored dichotomously (yes/no) indicating the presence or absence of a particular coping behaviour. The scale is considered to be one of its kind in the Indian context. The authors did not report the internal consistency of this scale. Another study conducted with an adolescent population (Sanyal & Ghoshal, 2015) reported the coefficients of reliability (split-half) and internal consistency (item-total correlation) of the CCL-1 as

0.8657 and 0.2025 respectively. This measure was used in one study included in this review (Kaur et al., 2013).

The Stress Coping Questionnaire (SCQ) based on Girdano and Everly (1986) types of coping strategies, is a 30-item self-report measure. The measure includes the following categories of coping strategies: family; hobbies; social support; therapeutic techniques; attention to health; and use of substances. There is no information regarding the way participants rate their responses or how scores are calculated. The scale has, however, demonstrated a good internal consistency with a Cronbach's alpha of 0.74 in the study where it was used which is included in this review (Lipp, 2009).

One study included in this review (Gershon et al., 2009) used a 14-item modification of the Coping Scale (Billings & Moos, 1981) and the Police Coping Scale (Beehr et al., 1995). The scale factors into four subscales: cognitive (problem-solving) strategies; faith-based strategies; avoidance; and negative behavioural. Respondents rate each item using a 4-point scale to assert the frequency by which they would use each strategy. Major coping style is determined by the subscale with the highest score. The authors conducted factor analysis, correlations and ascertained the reliability of the scale using coefficient alphas. The internal consistency of the subscales is varied (Cronbach's alpha ranging from 0.31 for the faith-based strategies, 0.49 for the avoidance and the negative strategies, to 0.71 for the cognitive problem solving).

One study included in this review (Yun et al., 2013) used a 13-item modification of the Police Coping Scale (Beehr et al., 1995). Respondents rate each item using a 5-point scale to assert the frequency by which they adopted each of the 13 strategies when they perceived work-related stress. The authors followed the approach that He, Zhao and Archbold (2002) used in their study, by grouping the items into two subscales: constructive and destructive

coping strategies. The constructive strategies consist of 4 items including positive and active responses to stress (e.g., talking to a partner or friends, religion, problem-solving, physical exercise). The destructive strategies consist of 9 items including negative and avoidance measures to deal with perceived stress (e.g., isolation, smoking, anger towards family or friends, aggressiveness, consuming substances, gambling, requesting transfers to other services). The internal consistency of the subscales had Cronbach's alpha ranging from 0.63 for the first group to 0.73 for the second group. The authors recognised that the reliability of the first group (0.63) was modest, however, given that the alpha values are a function of the number of items in the scale, they did not see the scale as problematic.

One study included in this review (Morash et al., 2008) used measures of Coping Resources and Strategies adapted from Haarr and Morash (1999) and supplemented with questions about reliance on the group. The scale consists of 15 items belonging to six subscales of coping resources (superiors support) and coping strategies (expressed feeling, changed jobs, got others to like me, keep written records and stay in a group), identified through factor analysis. Respondents rate each item using a 5-point Likert scale to assert the frequency by which they adopted each strategy in their law enforcement career. The scale has demonstrated good reliability with Cronbach's alpha for coping resources and strategies ranging from 0.71 to 0.82.

The Dispositional Resilience Scale 15-R (Bartone, 1995), is a 15-item self-report scale used to measure resilience/psychological hardiness through three dimensions: control; commitment; and challenge. Respondents rate each item using a 4-point scale indicating the level at which each of the 15 statements applies to them. Scores are obtained by reverse coding the appropriate items and summing items for each dimension. The overall hardiness score is obtained by summing all 15 items. Two studies included in this review (Fyhn et al.,

2016; Violanti et al., 2014) used this measure with the first one using an adaptation of the measure to Norwegian (Hystad, Eid, Johnsen, Laberg, & Bartone, 2010). Due to a debate regarding whether the concept of hardiness is a single construct or best considered as three separate dimensions, the studies included in this review employed the measure in both ways. Fyhn et al. (2016) reported the scale demonstrated good reliability with Cronbach's alpha for the total scale of 0.79, and then for each dimension of 0.70 (commitment), 0.71 (challenge) and 0.75 (control).

The Resilience Scale for Adults (RSA; Friborg et al., 2003), is a 33-item self-report scale used to measure resilience in adults. Respondents rate each item using a 5-point positive and negative semantic differential attribute. Scores on the RSA range from 33 to 231, with higher scores indicating higher levels of resilience. The scale consists of six factors: positive perception of self; planned future; social competence; social resources; family cohesion; and structure style. The scale has demonstrated an internal consistency ranging from acceptable to very good with Cronbach's alpha ranging from 0.67 to 0.90, as well as a satisfactory test-retest reliability ranging from 0.69 to 0.86 ($p < 0.01$) (Friborg, Barlaug, Martinussen, Rosenvinge, & Hjemdal, 2005).

Data Synthesis

The studies varied in the variables explored, however, all studies included in the review explored coping strategies and/or resilience in police officers.

Acquadro Maran et al. (2014, 2015, 2018) found that active coping, planning and acceptance strategies were those used the most across genders, roles and sectors in a sample of Italian patrol police officers. In the first article (Acquadro Maran et al., 2014), it was reported that male patrol officers used a range of adaptive coping strategies (i.e., active coping, planning, instrumental support, positive reframing and humour) as well as some

maladaptive coping strategies (i.e., denial and self-blame). Whereas female patrol officers used more emotional support, venting and religion. In the second article (Acquadro Maran et al., 2015), the authors made a distinction between the operational service (OS), which comprises frontline staff; and the interior department (ID), which comprises of organisational roles or staff responsible for personnel management. In the OS sector, patrol officers and unit managers used more venting and emotional support, as well as self-blame and denial. In the ID sector, male executives used religion while female non-commissioned officers used venting and self-distraction. In the third article (Acquadro Maran et al., 2018), the authors divided the group between indoor and outdoor patrol officers. They concluded that the indoor patrol officers used more self-distraction, denial and religion to cope with stress, while outdoor patrol officers were more prone to using instrumental support and substance use. The outdoor patrol officers, however, appeared to use a greater variety of coping strategies to deal with stress and, as such, handled stressful situations more effectively. This contributed to partially confirm their hypothesis in that they were better equipped to change their attitude towards work, however, they did not tend to use coping strategies oriented to an excessive display of emotions. All articles from the study scored 77.8% on the quality assessment tool.

Lipp (2009) found in her study with a sample of senior police officers in Brazil, that nearly half of the sample (43%) used family and social support as a coping strategy to deal with occupational stress. Furthermore, 29% took action regarding health care, 16% spent time on hobbies and 7% used chemical substances or therapy as coping strategies. She reached slightly different findings, in terms of gender, when compared to Acquadro Maran et al. (2014) given that male officers were more likely to seek family and social support, while female officers were more likely to use hobbies and health care as coping strategies to deal with excessive stress. Results also indicated that participants regardless of gender, who were

less stressed, were likely to use family support, hobbies and health care more often than participants who were more stressed. The study scored 77.8% on the quality assessment tool.

Briones Mella and Kinkead Boutin (2013) found in their study with male officers from Chile, that the coping strategies were used in parallel and were not mutually exclusive. In terms of emotion-focused strategies, officers appeared to prefer positive reinterpretation and personal growth, acceptance and religion. The preferred problem-centred strategies that the officers employed were: planning; active coping; seeking social and instrumental support. They also found that the strategies less used by the officers were those considered dysfunctional (e.g., denial, behavioural disengagement and alcohol/drug use). Singh (2017) found in his study with a sample of police officers from India, that officers with different ranks and length of service used different coping strategies. Officers reported better active, planning, and suppression of competing activities than sub-inspectors and constables. Officers with a long job tenure reported better positive reframing as well as instrumental support than the short job tenure group. Sub-inspectors and short job tenure used more religion coping than constables, officers and the long job tenure group. Sub-inspectors also used more denial coping than their counterparts. Constables and long job tenure used more humour coping than the other groups. Both studies scored 77.8% on the quality assessment tool.

Mushwana et al. (2019) found in their study with police officers from South Africa, that officers were more likely to use problem-focused coping strategies (with a cognitive and behavioural component), than emotionally-focused coping strategies and avoidance coping strategies, when addressing stress. This appeared to be the case regardless of their age, religion, language, gender, marital status or rank. Many officers also used religion as a coping mechanism. In general, they did not use maladaptive and avoidance coping strategies, such as drinking alcohol or taking drugs, engaging in self-blame, denying that something had

happened, and giving up when faced with stressful events. Similarly to the results of Mushwana et al. (2019), Galanis et al. (2019) found in their study with police officers from Greece, that the most frequently used coping strategy was the problem-focused strategy, followed by the emotion-focused strategy and the last one used was the avoidance-focused strategy. Furthermore, they found that increased use of a negative or maladaptive coping strategy such as avoidance, increased occupational stress. Both studies scored 88.9% on the quality assessment tool.

Gershon et al. (2009) conducted a study with USA police officers and reported their preference for cognitive problem-solving coping strategies such as making a plan of action and following through (45%), followed by drawing on past experiences (40%) and talking to family or professionals to cope with stress (39%). Faith-based strategies such as relying on their faith in God (39%) and praying (32%) were also amongst the most used coping strategies. Avoidance or negative strategies such as acting as if nothing was bothering them when stressed (27%), smoking (12%), yelling at others (6%) and going to bars with fellow officers (5%) were amongst the least used strategies by the sample. Officers who reported using problem-solving and faith-based coping strategies reported lower levels of perceived stress, while avoidance or negative coping was associated with higher perceived stress. The study scored 100% on the quality assessment tool.

Kaur et al. (2013) found, in their study with a sample of constables and head constables from India, that the coping methods they used the most were social support (72.55%), acceptance/redefinition (64.72%) and problem-solving (60.46%). Similarly to Gershon et al. (2009), this study found that negative distraction and denial/blame were significantly associated with psychological distress. Brough et al. (2018) conducted a study with Australian police officers and reached identical results; the coping styles of avoidance,

devaluation and symptom reduction were positively associated with psychological strain and negatively linked to work engagement. Moreover, it was reported that both cognitive and emotional job demands increased work engagement over time by encouraging accommodation coping for officers with low supervisor support as well as low levels of job control. Coping, therefore, mitigated against the negative effects of job demands on outcomes, when the support and control available were inadequate. Both studies scored 88.9% on the quality assessment tool.

Daderman and De Colli (2014) confirmed their hypothesis and found that Swedish police officers providing on-the-beat service scored higher values on the psychological resource 'Sense of Coherence' (SOC) and on the Coping Resources Inventory (CRI) than comparison samples. The only exception to this was in the scale of spiritual/philosophical resources, whereby the officers scored lower than the American norms, but similarly to the values for a normal group within the CRI Swedish manual. There were no gender differences in the coping resources used. The study scored 88.9% on the quality assessment tool.

Padyab et al. (2016) found, in their study with patrol police officers in Sweden, that women scored higher than men on all coping behaviours, except psychological distancing. Coping strategies were seen as a confounder and were related to lower emotional exhaustion (EE) and depersonalisation (DP) (e.g., positive reappraisal was negatively associated with DP). The study scored 88.9% on the quality assessment tool.

Contrary to the findings from all the other studies which examined coping, both studies from South Korea (Morash et al., 2008; Yun et al., 2013) did not find that coping strategies or coping resources reduced/moderated the effects of stress or the relationships between stressors and stress in police officers. Morash et al. (2008) found, however, a modest association between support from superiors as well as keeping written records, with lower

levels of stress. Using a structural equation model, Yun et al. (2013) also found that the coping strategies and the coping resources served as mediators between work-family conflict and somatization symptoms, particularly through the use of destructive coping (e.g., smoking and drinking). Both studies scored 77.8% on the quality assessment tool.

With regards to the studies which examined resilience, Fyhn et al. (2016) reported results which confirmed both their hypotheses about Norwegian police investigators: hardiness was a robust predictor of burnout, although this was mainly due to the commitment dimension. The group of investigators working with assault crimes also scored significantly higher on hardiness than investigators of less offensive crimes. Violanti et al. (2014), reported associations between police stress and work absence, only among participants with a high hardiness score in their sample of USA police officers. One-day work absences were mostly associated with high scores on the challenge dimension of hardiness, while work absences lasting at least three consecutive days were more prominent in officers with a high score on the commitment dimension. Both studies scored 88.9% on the quality assessment tool.

In their study of Western Australian police officers, Balmer et al. (2014) examined both resilience and coping, and found that resilience was significantly predicted by rational coping and less by emotional coping, however, not by detached or avoidance coping, nor by psychological functioning as measured by the General Health Questionnaire-12 items (GHQ-12). There were no gender differences with regards to resilience scores. Moreover, resilience scores appeared to be negatively affected by increased rank and length of service. There was an overall preference for rational coping, however, female officers used emotional coping strategies considerably more than their male counterparts, whilst males relied on detached coping significantly more. Furthermore, the use of emotional and avoidance coping appeared

to increase with greater length of service, higher rank and older age. The study scored 77.8% on the quality assessment tool.

Discussion

This systematic review aimed to identify, retrieve, evaluate and synthesise the available literature regarding resilience and coping in police officers, by answering the following question: ‘How resilient are police officers and what coping strategies do they employ, when dealing with stress?’. A narrative synthesis of study findings addressed the research question, providing detail regarding levels of resilience in police officers and the range of coping strategies they use, as well as comparing these to the available literature. A total of eighteen studies were included. Fifteen of the eighteen studies included in this review explored coping in police populations, two studies explored resilience or hardiness (factor in resilience), and only one study explored both variables. However, a variety of results were obtained as the different studies measured different variables in combination with coping and/or resilience and used different psychometric tools in order to measure those variables. The studies were conducted in different countries and the samples were large and diversified. No studies with less than 100 participants were included in the review, and the largest sample comprised of 2481 participants (Brough et al., 2018). Furthermore, in studies where the ranking, sector, length of service, and gender of the police officers was recorded, the results were richer and more diversified. This heterogeneity in terms of variables and research questions in the different studies as well as the use of multiple measures, make it problematic to make firm assumptions regarding the use of coping strategies and the levels of resilience with which officers present when dealing with stress. There are still gaps in the literature that should be addressed, and it is strongly recommended that there is more consistency,

particularly in terms of measures used, in future research (more detail in the following sections).

The results from the studies included in this review do not entirely support the idea that police officers use mostly ineffective/negative coping strategies such as emotion-focused, escape or avoidance, to deal with stress (Anshel, 2000; Jackson & Maslach, 1982). Some studies (e.g., Acquadro Maran 2014, 2015, 2018; Briones Mella & Kinkead Boutin, 2013; Galanis et al., 2019; Mushwana et al., 2019) suggested the most used strategies by their samples were problem-focused, such as active coping (which has been found to be negatively correlated to burnout) (Picañol, 2009), planning, and seeking social/instrumental support. Gershon et al. (2009) reported the preference of their sample was for cognitive problem-solving coping strategies such as making a plan of action and following through, as opposed to the use of avoidance or negative strategies such as acting as if nothing was bothering them when stressed. The studies also confirmed the use of maladaptive coping strategies, such as denial and self-blame (Acquadro Maran et al., 2014), however, most studies concluded that these dysfunctional strategies were the least used in their samples (e.g., Briones Mella & Kinkead Boutin, 2013; Galanis et al., 2019; Gershon et al., 2009; Kaur et al., 2013; Mushwana et al., 2019). There were only two studies, both from South Korea (Morash et al., 2008; Yun et al., 2013), which did not find that coping strategies or coping resources reduced/moderated the effects of stress or the relationships between stressors and stress in police officers. In fact, Yun et al. (2013) found that the officers in the sample employed destructive coping techniques frequently.

Despite the overall preference of samples for particular coping strategies, both gender and cultural differences were observed in some studies. Acquadro Maran et al. (2014) reported that male officers used more active coping and instrumental support, as well as

denial and self-blame, whereas female officers used more emotional support, venting and religion. Balmer et al. (2014) found similar results – female officers used emotional coping significantly more than male officers, and males relied more on detached coping than did their counterparts. Lipp (2009) on the other hand, found that male officers were more likely to seek familiar and social support, while female officers were more likely to use hobbies and health care to deal with stress. However, Mushwana et al. (2019) found no differences in the coping strategies used, regardless of gender. Importantly, Balmer et al. (2014) found that in spite of the female officers' preference for emotion-based coping, there were no gender differences in the overall resilience of the officers. This indicates that emotion-based coping strategies are not necessarily damaging to officer's well-being and resilience, and provides support to Violanti's (1992) view that some people are able to use both coping strategies (problem-focused and emotion-focused coping), in an effective way to deal with stressors. Balmer et al. (2014) suggest that the use of specific emotion-based coping strategies can be positive and enhance the officers' capacity to manage stressors as well as the organisational demands arising from their profession.

Studies investigating resilience reached conclusions that police officers had generally high levels of resilience/hardiness and that the latter predicted burnout beyond that of traditional buffers (Fyhn et al., 2016). Balmer et al. (2014) found that resilience scores were negatively affected by increased rank, age and length of service. The decrease of resilience with increased length of service was consistent with findings from previous studies (e.g., Prati & Pietrantonio, 2010). Authors proposed that this could be due to cumulative exposure to stress and traumatic events experienced within the law enforcement career, which could be overwhelming for the officers, leading to distress and negatively affecting their resilience. The decline of resilience with increased age, however, was not consistent with previous

findings (e.g., Gooding, Hurst, Johnson, & Tarrier, 2012). The authors suggested that senior ranked officers (who would be older by default) could have their coping ability undermined due to the exposure to stressors which would, consequently, negatively affect their physical health, psychological functioning and resilience (Balmer et al., 2014).

Overall, the findings of the studies included in this review provide support to some of the extant literature on this topic. Positive, active and adaptive-related coping strategies appear to decrease work stress and have demonstrated a general stress-buffering effect (Acquadro Maran et al., 2014; Kaur et al., 2013; Singh, 2017). Contrary to this, maladaptive coping strategies such as negative distraction, escape, avoidance, blame, denial, and drug/alcohol consumption, appear to be positively linked with the development of high psychological and work stress, leading to burnout (Carver et al., 2010; Kaur et al., 2013; Singh, 2017).

Methodological Limitations of the Studies Reviewed

All participants in the included studies were police officers; however, in some articles, their ranking or specific areas of investigation were not included. Despite the use of measures to ensure quality and consistency across the studies included in this review, there are some methodological limitations that apply to most studies included in this systematic review, since only one study achieved 100% in the quality assessment tool (Gershon et al., 2009). For example, most other studies failed to report reasons for selecting or recruiting the number of people included and to discuss the statistical power of the study. However, observational studies often do not report anything about power or sample sizes because the analyses are exploratory in nature, as such, this was not considered a critical flaw. Some studies also failed to report the percentage of eligible people who participated in the studies. If fewer than 50% of eligible persons participated in the study, there is a concern that the study population does

not accurately represent the target population, which increases the risk of bias (see Appendix F for more detail).

Across studies, there were weaknesses in the psychometric tools used, as some scales were not sufficiently reliable and potentially invalid. In addition, the studies included in this review did not use the same/identical measures of resilience/coping, which impacts on the overall interpretation of results.

Other methodological limitations affecting cross-sectional studies, which were the majority (i.e., 17 out of 18) of the studies included in this review, are related to the design which precludes the determination of causality or temporal relationship (Gershon et al., 2009). The fact that most samples were self-selected in the sense that officers were contacted and free to decide whether or not to take part in the study, can cause limitations in terms of determining whether the participants can be considered to be a representative sample. Moreover, the absence of information regarding non-respondents can limit conclusions by preventing further analysis of responder bias (Acquadro Maran et al., 2018).

Most studies used police officers from only one police department, which may restrict the generalisation of the results to all police forces, especially when there might be differences between urban and non-urban/rural settings (Gershon et al., 2009). However, the problems faced and the strategies used by police officers in one large department are unlikely to be particularly different from another, similar, department (Gershon et al., 2009). This can also present as a limitation when different cultures are being studied, for example, what is valued in the South Korean culture and more broadly the East Asian cultures, can be different from the Western cultures, limiting the generalisations of results to the other cultures (Morash et al., 2008).

Finally, studies that did not consider variables such as gender or length of experience could have limitations in the sense that these variables could have an impact on resilience/use of coping strategies and impact the ability of police officers to cope with occupational stress, professional role or their sense of identity (Acquadro Maran et al., 2018).

Strengths and Limitations of the Current Review

A key strength of this systematic review is that there appear to be no other systematic reviews exploring resilience and coping in police officers, as such, this review was original in its aims and criteria. Furthermore, it became apparent when conducting this review that, although there are many studies exploring variables such as coping or resilience in populations of police officers, those studies do not focus solely on this and use many different tools to measure these constructs and strategies. Consequently, it is useful to have a synthesis of existing data on this topic using a rigorous and systematic approach in order to identify existing evidence, through an electronic search on databases, hand searching of reference lists and free searches on the web. Several steps were taken to increase the robustness of this review, such as the use of a quality assessment tool which included nine items for evaluating potential flaws in each article. A decision was made to exclude any article below the classification of good (<67%) to ensure a high-quality standard of the articles reviewed. Furthermore, inter-rater reliability was ensured with three of the selected studies being independently rated by a qualified psychologist. These steps allow confidence in the conclusion that most or all relevant research were included in the systematic review, which contributes to investigating gaps in the literature and making recommendations for future research.

There are, nevertheless, limitations to the methodology used in the review. Only including papers that were published in peer-reviewed journals and could be accessed in full-

text limited the scope of the review; as a consequence, studies of relevance may have been missed. Additionally, excluding dissertations/theses/editorials in the selection process as well as including studies available in English only, is likely to have biased the results. However, this decision was made based on time and financial constraints.

This review predominantly included studies measuring coping or resilience and stress, excluding all studies investigating psychopathology (e.g., suicidal ideation, PTSD, secondary traumatic stress) as well as studies where any other profession was included (e.g., first responders, firefighters). This represents a limitation to the generalisation of the results concerning more severe aspects of stress (e.g., PTSD) and reflects a gap in the literature through the non-existence of a systematic literature review exploring this. Furthermore, none of the studies included in this review was conducted in the UK, which might prevent the generalisation of current results to the UK police population.

Implications for Practice

The results of this systematic review indicate that police officers use a number of coping strategies, depending on the situations they are presented with, and that the use of strategies is not mutually exclusive (Briones Mella & Kinkead Boutin, 2013). Police officers appear to employ mostly positive/adaptive coping strategies (e.g., problem-focused such as active coping, planning), which literature indicates to be associated with a reduced risk of psychological and occupational distress. Authors also report findings in their studies indicative of the use of coping strategies considered dysfunctional or maladaptive (e.g., avoidance, escape, denial) at times, although these were the least used in all studies included in the review, except for Yun et al. (2013). The use of these coping strategies is described as detrimental and can lead to burnout of the police officers.

It was also highlighted that police officers, particularly those who investigate more serious crimes, have higher levels of resilience/hardiness (Fyhn et al., 2016). According to the literature, people with high levels of hardiness are better able to activate resources in difficult situations, as well as more likely to employ positive/adaptive coping strategies to a greater extent than people with low levels of hardiness (Crowley, Hayslip, & Hobdy, 2003; Hystad, Eid, & Brevik, 2011). Violanti et al. (2014) found this to be the case with results from the study indicating that officers with higher levels of hardiness were more capable of making decisions to take days off work as a positive way to deal with occupational stress, thus benefiting their health. Balmer et al.'s study (2014) reported that resilience scores were negatively affected by increased rank, age and length of service. This was considered to be a result of cumulative organisational stressors over the span of the career and the authors hypothesised that it could also be due to a lack of appropriate social support networks for senior rank officers. Literature indicates that meaningful social support systems can reduce the negative effects of occupational stress, whilst enhancing coping and protecting the physical and mental health of individuals (Balmer et al., 2014).

Taking these findings into consideration it would be recommended that police agencies create or increase the support systems available to their employees, including social support networks, thus contributing to minimise the impact of work stress and improving their well-being. Furthermore, law enforcement agencies could invest in more training to teach adaptive coping strategies to police officers, as well as in interventions which aim to enhance officer's resilience, to provide them with tools to maintain their own well-being. Awareness training on the negative impact of maladaptive coping strategies would also be recommended for police agencies to put into practice. This would aim to reduce the use of maladaptive

coping strategies by police officers, and replace them with more positive/adaptive coping strategies.

Recommendations for Future Research

Future research could focus on examining organisational stress, the access of police officers to social support networks across ranks and ages and the effect of this on resilience levels (Balmer et al., 2014) as well as on well-being in general. In addition to this, it would be recommended to investigate the particular stresses faced by undercover police officers and the support strategies available to them to see if and how they differ from those used by uniformed police officers.

In the present systematic review, only one study had a longitudinal design (Brough et al., 2018), however, it would be useful to conduct more longitudinal studies (Balmer et al., 2014). Longitudinal studies should aim to investigate the coping strategies used by police officers across their career as well as their levels of resilience, preferably with the use of *gold standard* measures for both variables (when these are available), in order to achieve comparable results. This would likely allow confirmation as to whether coping strategies and resilience change in response to time or career factors. In addition to this, future research on coping and resilience should aim to include groups of officers with low levels of perceived stress and groups of officers who reported to suffer some form of severe stress or burnout, in order to identify the key differences in terms of coping and resilience between both groups and elaborate recommendations.

Fyhn et al. (2016) compared levels of hardiness in investigators of different crimes. More research comparing resilience and coping across ranks and specialisms within the forces (e.g., undercover operatives, hostage negotiators, inspectors, and detectives) would also provide greater insight into this area. Conducting more research with law enforcement

populations could contribute further to the evidence-base on resilience and coping; findings of such research could be used to increase the efficacy of specific intervention programmes or training aimed at improving the well-being of police officers. Moreover, as highlighted in the limitations of the present review, it would be useful to conduct a larger systematic literature review including all available studies on the topic of resilience and coping to allow for comparisons to be made to other high-risk professions such as frontline emergency personnel, firefighters and the military.

The following chapter, Chapter 3, presents and critiques a resilience measure (Resilience Scale (RS); Wagnild & Young, 1993). Chapter 3 also covers the limitations of the RS and possible benefits of using this measure to assess the construct of resilience in large populations in combination with other measures. The Resilience Scale was then used in the empirical research study presented in Chapter 4 to explore resilience, coping and detection avoidance strategies in police officers with and without undercover/plainclothes experience. The hypotheses and methodology of the empirical study have been informed by the findings and limitations of the current systematic literature review.

CHAPTER 3

Critique of the Resilience Scale

Abstract

The aim of this chapter was to critically evaluate the Resilience Scale (RS; Wagnild & Young, 1993). The RS is a standardised 25-item self-report assessment tool that measures the degree of individual resilience focusing on positive psychological characteristics instead of deficits. Participants are required to rate, using a 7-point Likert item, how much they agree or disagree with the statements and how much they identify with them. The five characteristics underpinning the RS are *equanimity*, *perseverance*, *meaningfulness*, *self-reliance* and *existential aloneness*. The scale loads onto two factors: personal competence, and acceptance of self and life. Possible scores range from 25 to 175, with higher scores reflecting higher levels of resilience.

The tool has been translated and validated in several languages as well as administered to over 3 million people around the world in 150 countries, making it the most widely used resilience measure. However, there are a number of limitations within the tool, particularly in terms of potential response set bias (e.g., social desirability, acquiescence) due to all the items being worded positively and keyed in the same direction, as well as due to the nature of a self-report assessment.

Overall, this critique has found that the RS has a number of good psychometric properties, particularly in terms of internal consistency, construct validity and concurrent validity. The scale would benefit from more research on its test-retest reliability, as well as its predictive validity, for example through its application in longitudinal studies.

Introduction

Over the past few decades, the term resilience has been used in many disciplines generating several theories and definitions (see Chapters 1 and 2 for further detail). As a psychological construct, resilience has been highly valued due to its close relationship with the ability to moderate the negative effects of stress and promote adaptation to the environment under adverse circumstances (Ahern, Kiehl, Sole, & Byers, 2006; Ng Deep & Leal, 2012; Wagnild & Young, 1993). It denotes the capacity of positively facing adversity and “bouncing back” (Windle, Bennett, & Noyes, 2011, p. 2) under a perspective of health and well-being promotion, as well as of quality of life (Ng Deep & Leal, 2012).

Some authors have described that resilient individuals possess self-esteem, self-confidence, belief in self-efficacy and control over the environment, which enables them to succeed in spite of stressors (Beardslee, 1989; Caplan, 1990; Rutter, 1987; Wagnild & Young, 1993). It is, however, important to note that resilience is considered a transactional process mediated between the person and the environment, and while this interaction keeps changing throughout life, so does the individual’s ability to be resilient (Lazarus & Folkman, 1984; Pinheiro, Matos, Pestana, Oliveira, & Costa, 2015; Reppold, Mayer, Almeida, & Hultz, 2012; Windle, 2010). Resilience represents, therefore, the mitigation of risk factors and the enhancement of protective factors, as well as the interaction between the two (Ahern et al., 2006).

The origins of the concept of resilience can be found in two main bodies of literature: the physiological aspects of stress; and the psychological aspects of coping (Tusaie & Dyer, 2004). The last decades have seen the concept receiving increasingly more attention. In a brief review of studies, psychological resilience was mentioned 11 times between 1977 and 1987. From 1987 to 1997, this figure increased to 92 times, and from 1997 to 2007, it increased

further to 508 times (Wagnild, 2009). Policy and practice are also demonstrating more interest in the concept of resilience in relation to its influence on well-being, health and quality of life (Windle et al., 2011).

It is evident that interest is growing, however, due to the recognised complexity of the construct, it has been a challenge to develop an operational definition of resilience (Luthar & Cicchetti, 2000; Luthar, Cicchetti, & Becker, 2000; Wagnild, 2009; Windle et al., 2011). To tackle this issue, authors and work programmes have conducted reviews of the literature and concept analyses to provide a benchmark to allow the operationalisation of the concept and the ability to measure it (Windle et al., 2011).

The ability to measure the mind has been a subject of research and debates within the field of Psychology for many years (Thurstone, 1928). Psychometric tests are, essentially, a standard and scientific method used by professionals to measure individuals' mental capabilities, behavioural styles, attitudes and beliefs. As the need for reliable and valid instruments to assess resilience increased, so did the need to ensure data quality (Ahern et al., 2006). One way to warrant this quality is to exclusively use measures that have undergone a validation procedure, demonstrating that they accurately measure the intended construct, independently of who responds, when they do it, and to whom (Windle et al., 2011). The items should also reflect the concepts and theory they are proposing to measure. Moreover, this procedure should be able to establish the range of inaccuracies (and their causes), potential sources of bias, as well as whether the measure is well received by the responders (Windle et al., 2011). Ideally, a *gold standard* should be available when developing a measure; however, it is debatable whether there is one for the resilience construct, as discussed later in this chapter.

Research suggests that resilience is a necessary ability for police officers (Janssens et al., 2018), as such, a critique of a resilience tool was deemed to be relevant within the context of this thesis. The instrument chosen for the critique, and subsequent empirical study, was the *Resilience Scale*, developed by Wagnild and Young (1993), due to the growing evidence of its validity to measure resilience, its widespread application across populations, and its validation in the Portuguese population. The following critique examines the tool in terms of its scientific properties and its applicability to the adult population.

Overview of the Tool

The Resilience Scale (RS) is a 25-item self-report assessment tool published in 1993 that measures the degree of individual resilience (Wagnild, 2009, 2017; Wagnild & Young, 1993). The scale was originally developed based on a qualitative study conducted in 1987 with a sample of 24 older women who had adapted successfully following a major life event, and a qualitative study of 39 caregivers of spouses with Alzheimer's disease (Wagnild, 2016; Wagnild & Young, 1993). The authors then proceeded to validate and clarify the construct of resilience through a comprehensive review of the literature available on the topic at the time and designed an initial RS, which consisted of 50 items; each a verbatim statement from their study (Wagnild & Young, 1990). The RS was reviewed and analysed by two psychometricians and two nurse researchers prior to further testing, and this resulted in some changes in the wording of the items (Wagnild & Young, 1993). The authors then reduced the scale to 25 items, deemed representative of five interrelated components of resilience. The RS was further developed to focus on positive psychological characteristics instead of deficits (Wagnild, 2016).

The five characteristics underpinning the RS are *equanimity*, *perseverance*, *meaningfulness*, *self-reliance* and *existential aloneness* (Wagnild & Young, 1993). *Equanimity* represents a balanced perspective that people can have on their lives and experiences, and implies the ability to “sit loose and take what comes”, consequently regulating extreme reactions to adversity (Beardslee, 1989; Wagnild & Young, 1993, p. 167), often with a sense of humour (Wagnild, 2009). *Perseverance* represents the act of persistence despite hardship or discouragement, implying a willingness to remain involved, keep going and continue the struggle to rebuild one’s life despite setbacks (Wagnild, 2009). *Meaningfulness* characterises the realisation that there is something to live for – a life purpose (Caplan, 1990; Wagnild, 2009). *Self-reliance* denotes the capacity people have to believe in themselves and their capabilities; being able to depend on themselves whilst recognising their strengths and limitations (Caplan, 1990; Wagnild & Young, 1993). *Existential aloneness* characterises a sense of individuality and the awareness that each person is unique and that people have to go through some experiences by themselves, even if other experiences can be shared. This characteristic also denotes a sense of freedom (Wagnild, 2009; Wagnild & Young, 1990, 1993).

The pilot form of the RS was pretested for readability and clarity of items, initial reliability and specificity of directions in a population of 39 undergraduate nursing students, achieving an internal consistency reliability coefficient of 0.89 (Wagnild & Young, 1993). Five other studies were conducted using the RS, the results of which supported the internal consistency and test-retest reliabilities as well as the construct and concurrent validity of the scale, prior to the development and validation study (results of these are available in the psychometric properties section) (Wagnild & Young, 1993). The scale was made available in

1988 and was developed to be used, not only with a female population but also with male participants, as well as across a range of ages (Wagnild & Young, 1990).

In 1993, the scale was further tested on a large sample of middle-aged and older adults ($n = 810$) in the Pacific Northwest, obtaining a 54% response rate after the authors mailed 1500 surveys (Wagnild & Young, 1993). In addition to the RS and sociodemographic questions, participants were asked to complete measures of life satisfaction, morale, and depression, and to provide a self-report of health status ranging from poor to excellent (Wagnild, 2016; Wagnild & Young, 1993). The sample ranged in age from 53 to 95 years with a mean of 71.1 years ($SD = 6.5$) (Wagnild & Young, 1993). The majority of the participants were female (62.3%); 61.2% were married; 66.2% educated beyond high school; 79% were retired; 59.4% lived with a spouse; and about 47% reported very good to excellent health (Wagnild, 2016; Wagnild & Young, 1993).

During the development and evaluation study of the scale, principal component analysis (PCA) was conducted followed by oblimin rotation and Kaiser normalisation (Wagnild & Young, 1993). Even though the theoretical definitions of resilience supported a multidimensional construct and the RS items were selected to reflect the five above mentioned characteristics, the PCA suggested a substantial primary factor underlying the data and the scree test criterion resulted in a two-factor solution (Wagnild & Young, 1993). Factors I and II contained factor loadings at 0.40 or higher, explaining a total of 44.0% of the variance (Wagnild & Young, 1993). Factor I, labelled *Personal Competence*, comprised 17 items and suggested self-reliance, determination, independence, mastery, invincibility, resourcefulness and perseverance. Factor II, labelled *Acceptance of Self and Life*, encompassed 8 items and suggested adaptability, flexibility, balance and a well-adjusted perspective of life. Both factors reflected, according to the authors, definitions of resilience

and provided support to the construct validity of the scale. Subsequent analysis suggested that the RS items constitute a unitary construct (Wagnild, 2016). The items and their factors loadings can be seen in Table 3.

Table 3

Resilience Scale Factors with Item Loadings

Items	Factors	
	I	II
Factor I: Personal Competence		
Follow through with my plans	<u>0.75</u>	-0.20
Manage one way or other	<u>0.79</u>	-0.12
Able to depend on self more than anyone	<u>0.77</u>	-0.28
Keeping interested in things is important	<u>0.66</u>	0.09
I can be on my own if I have to	<u>0.71</u>	-0.12
I feel proud that I have accomplished things	<u>0.60</u>	0.06
I feel that I can handle many things at a time	<u>0.56</u>	0.08
I am determined	<u>0.70</u>	0.04
I can get through difficult times because of experience	<u>0.55</u>	0.23
I have self-discipline	<u>0.48</u>	0.26
I keep interested in things	<u>0.56</u>	0.08
My belief in myself gets me through	<u>0.53</u>	0.35
In an emergency, people can rely on me	<u>0.62</u>	0.13
I can usually look at a situation in a number of ways	<u>0.43</u>	0.26
Sometimes I make myself do things	<u>0.49</u>	0.15
When in difficult situation, can usually find way out	<u>0.51</u>	0.33
I have enough energy to do what I have to do	<u>0.41</u>	0.18
Factor II: Acceptance of Self and Life		
I usually take things in stride	0.36	<u>0.45</u>
I am friends with myself	0.38	<u>0.45</u>
I seldom wonder what the point of it all is	-0.01	<u>0.42</u>
I take things one day at a time	-0.01	<u>0.66</u>
I can usually find something to laugh about	0.36	<u>0.45</u>
My life has meaning	0.39	<u>0.40</u>
I do not dwell on things	-0.03	<u>0.74</u>
It's okay if there are people who don't like me	0.04	<u>0.49</u>

Items on the RS are written at the 6th-grade level (12-13 years) and can be completed in approximately 5-7 minutes by most people (Wagnild, 2017). Examples of items within the

scale include: “I can usually look at a situation in a number of ways”, “When I’m in a difficult situation, I can usually find my way out of it”, “I am determined”, and “My life has meaning”. Using a 7-point Likert item, participants are required to rate how much they agree or disagree with the statements and how much they identify with them. The response options are: 1 = strongly disagree; 2 = mostly disagree; 3 = somewhat disagree; 4 = neither agree nor disagree; 5 = somewhat agree; 6 = mostly agree; and 7 = strongly agree. All items are worded positively and possible scores range from 25 to 175, with higher scores reflecting higher levels of resilience (Wagnild & Young, 1993). This is slightly atypical on Likert scales, which are normally averaged instead of summed up. After repeated administrations of the RS with different samples, it was concluded that scores greater than 145 indicate moderately high to high levels of resilience, 121-145 indicate moderately low to moderate levels of resilience, and scores of 120 and below indicate low levels of resilience (Wagnild, 2009). The RS is applicable to almost any age group with a number of studies containing participants ranging from adolescents to the elderly (Wagnild, 2016). According to the author, it is essential to have the Resilience Scale User's Guide, which can be acquired when people who want to use the scale purchase a licensing agreement (Wagnild, 2017).

The Resilience Scale has been translated and validated in several languages including, but not limited to Chinese, English, French, German, Greek, Italian, Japanese, Korean, Portuguese, Russian, Spanish, Tamil, Turkish, and Urdu. Since 2006, more than 6,000 researchers have requested permission to use the RS, administering it to over 3 million people around the world in 150 countries, making it the most widely used resilience measure (Wagnild, 2016, 2017). According to the author, the RS is the original resilience measure and is considered the *gold standard* for resilience assessments among researchers around the world (Wagnild, 2017). In spite of this, Windle et al. (2011) conducted a methodological

review of 15 resilience measurement scales and concluded that, although a number of scales to this effect are available, no one is preferable over the others meaning that there is no current *gold standard* available. The authors reported that one reason why they could not give higher ratings to the scales was due to all measures having some missing information regarding the psychometric properties (Windle et al., 2011).

A further 14-item version of the Resilience Scale (RS14) was developed to fulfil the preferences of some researchers for shorter instruments in order to reduce participant burden and increase response (Wagnild, 2017). After conducting a series of large surveys, the creator of the tool made the instrument available as this proved to be strongly correlated ($r = 0.97, p < 0.001$) with the original Resilience Scale (Wagnild, 2017). The author also developed the True Resilience Scale for Children (RS10), which intended to measure individual resilience in children ages 7-11 years (Wagnild, 2017). These two versions of the scale will not be examined in this critique.

Psychometric Properties

Kline (1986, 2000) suggests that a good psychological test requires the following characteristics: 1) needs at least an interval scale (ratio scale is even better, i.e., by having a true zero point); 2) needs to be reliable; 3) needs to be valid; 4) needs to be discriminating; 5) needs to have appropriate normative data. Essentially, the test should measure the intended construct both accurately and steadily (Kline, 1986).

Level of Measurement

The level of measurement used in the RS is interval data. Participants are asked to rate, using a 7-point Likert item, how much they agree or disagree with the 25 statements presented and how much they identify with them. Therefore, numerical differences between

participants are possible to establish, benefiting the analysis of data (Field, 2009) and establishing that higher scores reflect higher levels of resilience.

Self-Report

The RS is a self-report assessment, which simplifies the administration of the scale. However, this can result in limitations to the instrument such as response set bias, especially social desirability and acquiescence (Wagnild, 2009). One of the authors acknowledges that responses to the RS tend to be negatively skewed, with most participants scoring in the upper range of the scale (i.e., maximum achievable is 175, and the average for most samples is between 140 and 148) (Wagnild, 2009).

The social desirability response bias is the tendency for a person to respond in a way that appears to be socially acceptable and morally virtuous (Strack, 2008). The author also recognises that the most desirable/adequate responses to the RS may be obvious to most participants (Wagnild, 2009). The other issue found within the RS is concerned with the fact that all items are worded positively and keyed in the same direction, which means it is particularly vulnerable to the effects of an acquiescence response bias (Wagnild, 2009). This, however, appears to be counterbalanced to some extent by correlations in the expected direction between the RS and other measures in which acquiescence may be less problematic, such as measures with both positively and negatively keyed responses (see construct validity section for further discussion) (Wagnild, 2009).

Ways to overcome these biases include rewording of statements and negatively keying some of the current items (Wagnild, 2009). Revising the current response set enabling a forced-choice format to the response format might also minimise some of these response biases (e.g., instead of allowing seven options including a neutral response, there could be only four possible options to each statement, thus forcing the participant to endorse one side

only of a particular statement) (Wagnild, 2009). Ensuring anonymity, similarly, will reduce response set bias (Wagnild, 2009), which is already the case in most studies.

Reliability

Internal Consistency.

Internal consistency is defined as the degree to which scores or answers are free from random error, implying homogeneity of content in tests with many items and internal consistency among the responses to test items (SAC-MOS, 2002). Cronbach's alpha coefficient estimates the reliability of a measure based on their internal consistency (Kline, 2000). Accepted minimal standards for reliability coefficients are 0.70 for group comparisons and 0.90-0.95 for individual comparisons (SAC-MOS, 2002).

As mentioned above, the pilot form of this scale obtained an internal consistency reliability coefficient of 0.89 in a population of 39 undergraduate nursing students. The five studies using the RS conducted prior to the validation and evaluation study also supported the internal consistency of the scale achieving respectable reliability with Cronbach's alpha coefficients from 0.76-0.90 (these can be seen in Table 4).

Table 4

Coefficient Alpha for the Resilience Scale (Preliminary Studies)

Study	Authors	Coefficient Alpha
Caregivers of spouses with Alzheimer's disease ($n = 39$)	Wagnild & Young (1988)	0.85
Female graduate students ($n = 58$)	Klaas (1989)	0.86
Female graduate students ($n = 43$)	Cooley (1990)	0.85
First time mothers (post-partum) ($n = 130$)	Killien & Jarrett (1993)	0.90
Public housing residents ($n = 43$)	Wagnild & Young (1991)	0.76

Although preliminary studies supported the reliability of the RS, the validation study (Wagnild & Young, 1993) was a necessary next step to explore the psychometric properties of the scale. In this study, the scale achieved a high internal consistency with a coefficient alpha of 0.91. Item-to-total correlations ranged from 0.37 to 0.75, with the majority falling between 0.50 and 0.70 all being significant at $p < 0.001$ (Wagnild & Young, 1993).

Over the years, many studies (including both genders, all ages and ethnic groups), attested the strong internal consistency reliability of the RS (some examples can be seen in Table 5).

Table 5

Coefficient Alpha for the Resilience Scale (Newer Studies)

Study	Authors	Coefficient Alpha
At risk adolescents ($n = 51$)	Hunter & Chandler (1999)	0.72
Homeless adolescents ($n = 59$)	Rew et al. (2001)	0.91
Mothers with pre-school children ($n = 67$)	Monteith & Ford-Gilboe (2002)	0.85
Sheltered battered women ($n = 50$)	Humphreys (2003)	0.94
Young military wives ($n = 91$)	Schachman et al. (2004)	0.86
Adolescent mothers ($n = 41$)	Black & Ford-Gilboe (2004)	0.85
Older adults ($n = 125$)	Nygren et al. (2005)	0.85
Older adults ($n = 599$)	Leppert et al. (2005)	0.94
Finnish participants ($n = 243$)	Losoi et al. (2013)	0.90

Test-retest Reliability.

Test-retest reliability examines the consistency of the test over time by correlating the scores from a set of participants who take the test on two occasions (Kline, 2000). This type of reliability assumes that the quality and the construct measured will remain the same at both points in time (Kline, 2000).

At the time that the validation study (Wagnild & Young, 1993) was published, test-retest reliability of the RS was being assessed in an ongoing study of pregnant and post-partum women (Killien & Jarrett, 1993). Women in the study were administered the RS over an 18-month period, during pregnancy and at 1, 4, 8 and 12-months post-partum. The correlations ranged from 0.67 to 0.84 ($p < 0.01$) which was considered acceptable and suggestive of resilience being stable over time (Wagnild & Young 1993).

The authors have not published more test-retest results, which suggests that this type of reliability needs further evaluation. Recommendations made by the author include longitudinal studies to measure how resilience changes over time (Wagnild, 2009). In spite of this, there have been some examinations of test-retest reliability in the RS when the scale was translated and adapted to different languages. For example, in their study with 215 participants using the RS, Felgueiras, Festas, and Vieira (2010) conducted a test-retest correlation, in a sub-group of 30 participants, and achieved 0.72 ($p < 0.001$), showing good stability over time.

Validity

Face Validity.

Face validity concerns the extent to which a test appears to be measuring what it claims to measure (Kline, 2000). Clear wording (designed to be easy to understand for the intended population to be tested) can improve the face validity of a test. In contrast, if items are too complex, participants may be discouraged and disengage from completing the measure (Kline, 2000).

According to the extensive application of the RS, the author claims the test is easy to use, readable at the 6th-grade level (12-13 years) taking only 5 to 7 minutes to complete (Wagnild, 2016). Moreover, the author reports the scale has been used effectively,

operationalising the theoretical construct of resilience, with a range of samples from adolescents to the elderly, which demonstrates that people from different backgrounds and ages easily understand the items (Wagnild, 2016).

Content Validity.

Content validity examines whether a measure includes all possible aspects pertaining to the construct under investigation (Windle et al., 2011). Kline (2000) suggests that content validity should be supported by concurrent validity.

The authors of the scale suggest that the RS possessed *a priori* content validity given that, during the construction of the items, they selected generally accepted definitions of resilience from the literature and drew definitions from interviews of persons who characterised the construct (Wagnild & Young, 1993). The authors reported that five themes derived from these interviews and these were further validated with research literature (Wagnild & Young, 1993). Finally, the authors recognise that the use of all positively worded items may have led to a response set bias, however, they opted to not change the statements as they were concerned that reversing the items would change their original meaning (Wagnild & Young, 1993).

Although Windle et al. (2011) awarded the maximum score for content validity to the RS in their methodological review of resilience measures, they criticised the fact that the authors did not outline the analytical approach they used to derive the five themes that serve as a foundation to their scale. Moreover, they criticised the fact that the authors claim they used generally accepted definitions of resilience from the literature, yet these are not specified in the article which makes it unclear how comprehensive the sampled items are (Windle et al., 2011).

Construct Validity.

Construct validity is considered the crucial form of validity as it ensures that the test operates well as a construct, measuring what it intends to measure with clearly defined items. The construct validity essentially embraces validity of every type (Kline, 2000). It can be explored through correlations between the construct under investigation and variables that are known to be connected (Campbell & Fiske, 1959).

Multiple methods have been used to assess the construct validity of the RS and, according to the author, the accumulation of this evidence over the years supports the construct validity of the scale (Wagnild, 2017). Methods include content analysis, known groups, convergent/discriminant studies, correlation studies, factor analysis, amongst others.

The resilience construct, as measured by the RS appears to be positively associated with many positive qualities, including self-esteem, active coping, forgiveness, health promotion, psychological well-being, sense of community, social support, optimism, spiritual well-being, and goal achievement (Wagnild, 2017). In contrast, the RS appears to be inversely related to issues such as hopelessness, passive coping, stress, depression, anxiety, compassion fatigue, burnout, and employee turnover (Wagnild, 2017).

A study conducted by March (2004) examined the relationships between life adversity and resilience in late life development. The author found that Resilience Scale scores were significantly negatively correlated with life stress, measured using the Holmes–Rahe Stress Inventory (Holmes & Rahe, 1967), and a number of stressful events ($r = -0.43$, and -0.40 , respectively, both $p < 0.01$), and suggested that even though life stresses lower resilience, resilience upholds its buffering effects on well-being (March, 2004).

Items from the Health Promoting Lifestyle Profile (HPLP) (Walker, Sechrist, & Pender, 1987) were used to document convergent and discriminant validity of the RS in a

sample of middle-aged to older adults ($n = 707$). The HPLP is considered a reliable and valid measure of health promotion behaviours, comprising six domains: stress management; health responsibility, nutrition, exercise, self-actualisation, and interpersonal support (Wagnild, 2016). In order to support convergent validity of the RS and the RS14 it was anticipated that the scores of these two would have moderate to high ($r > 0.45$) correlation with the HPLP subscales as they tap into similar constructs (Wagnild, 2016). Higher correlations (convergent) were anticipated between the RS/RS14 and domains in the HPLP including self-actualisation and stress management (Wagnild, 2016). Lower correlations (discriminant) were anticipated between the RS/RS14 and domains of exercise and nutrition (Wagnild, 2016). It can be seen in Table 6 that correlations were as expected, in the hypothesised directions.

Table 6

Pearson Correlations Between RS and RS14, and HPLP Domains

Scales	Health Promoting Lifestyle Profile					
	Self-Actualisation	Health Responsibility	Nutrition	Exercise	Interpersonal Support	Stress Management
RS	0.62	0.37	0.33	0.26	0.49	0.46
RS14	0.63	0.36	0.29	0.29	0.49	0.43

$n = 707$

Concurrent Validity.

Concurrent validity examines the relationship between the test and other associated theoretically relevant criteria. It is measured through correlations between the test and other measures aimed at assessing the same construct (Kline, 2000).

Concurrent validity was demonstrated by high correlations of the RS with well-established and valid measures of the constructs linked with resilience and outcomes of resilience, during the validation study (Wagnild & Young, 1993). It was hypothesised that

resilience would be positively related to measures of adaptation to stress such as life satisfaction and morale and negatively correlated with a measure of depression (Wagnild & Young, 1993). Furthermore, it was assumed that physical health, as an indicator of adaptation to stress, would be positively correlated with higher scores on the scale (Wagnild & Young, 1993). As demonstrated in Table 7 all correlations were significant in the expected directions at $p < 0.001$.

Table 7

Correlations Among the Resilience Scale and Depression, Health Status, Morale and Life Satisfaction

Measure	RS	BDI	LSI	PGCMS
BDI	-0.37			
LSI	0.30	-0.62		
PGCMS	0.28	-0.35	0.67	
Health	0.26	-0.47	0.44	0.47

Note. RS = Resilience Scale; BDI = Beck Depression Inventory (Beck & Beck, 1972); LSI = Life Satisfaction Index (Neugarten, Havighurst, & Tobin, 1961); PGCMS = Philadelphia Geriatric Center Moral Scale (Lawton, 1975)

$n = 810$; $p < 0.001$

Predictive Validity.

Predictive validity examines the extent the results of the test can predict some criterion (Kline, 2000). The author suggests that resilience, measured with the Resilience Scale, might be used to predict outcomes. Given the five characteristics underpinning the scale (see more detail in overview of the tool section), individuals who score higher on resilience might be expected to self-manage chronic disease more successfully than those who score lower (Wagnild, 2009). Furthermore, those with higher resilience scale scores might be more likely to succeed in a weight loss or smoking cessation programme (Wagnild, 2009).

A study conducted in Japan to examine the psychometric properties of the resilience scale (Hasui et al., 2009), confirmed its predictive validity by the finding that the RS scores predicted depressive mood two weeks later. This was still the case after controlling for depressive mood and the stressful life events, which occurred in the previous week (Hasui et al., 2009). In spite of these findings, this particular type of validity would benefit from more research.

Norms and Populations

Normative populations or references are useful for researchers and practitioners to interpret the meaning of the individual scores. Moreover, the norms describe the range of scores that should be expected from the population being tested (Kline, 2000). Without norms, the interpretation at individual and group levels becomes meaningless (Kline, 2000).

As previously mentioned, after repeated applications of the RS it was concluded that scores greater than 145 indicate moderately high to high levels of resilience, 121-145 indicate moderately low to moderate levels of resilience, and scores of 120 and below indicate low levels of resilience (Wagnild, 2009). Mean scores of RS items are available in the user's guide, as well as detailed analysis of samples divided into those scoring low and high on the RS.

In a review of 12 studies using the RS, the author of the scale concluded that the scale had been used with a variety of age groups ranging from adolescents to elderly (16 to 103 years old) (Wagnild, 2009). She reported that, in all studies, there were no age-related differences on RS scores and that the predominant group being studied was European American, highlighting the need to study the RS with respect to race and ethnicity (Wagnild, 2009).

In the reviewed studies, the sample with the lowest average RS score (average score = 111.9) was homeless adolescents (Rew et al., 2001). Average RS scores for other samples in the same review were moderate to moderately high with most scores ranging from 140 to 148 (Wagnild, 2009). The studies included in this review were conducted in the USA, Canada, Australia, Sweden and Germany and did not present particular mean score differences based on the countries. Studies that report the adaptation of the RS to other languages and cultures have also presented mean scores providing an idea of the norms for the specific countries (e.g., Felgueiras et al., 2010). This information can be found in the specific articles pertaining to the adaptation, rather than as a whole in the RS user's guide.

The author presents an example of the RS results and mean scores of a study ($n = 1061$) conducted over nine months in 2009 and 2010 through the RS website (www.resiliencescale.com) (Wagnild, 2016). The mean RS score was 135.5, which, in comparison to other studies, falls in the range of moderately low to moderate levels of resilience. The average age for participants was approximately 36 years, with the majority (64%) between 20 and 40 years of age (Wagnild, 2016). Furthermore, 77% of the participants were female as opposed to only 23% of males (Wagnild, 2016). A summary of the results can be seen in Table 8.

Table 8

Resilience Scale Results

Measure	Score
Mean	135.49
Median	138.00
Std. Deviation	19.68
Minimum	42.00
Maximum	175.00
Range	133.00
Cronbach's Alpha	0.93

Other Resilience Measures

At the time that the RS was developed, there was no validated resilience measure, however, over the years several scales have been created for this purpose. Ahern et al. (2006) conducted a review of instruments measuring resilience with the specific application to adolescent populations. Using inclusion and exclusion criteria, six psychometric instruments underwent a full review (Baruth & Carroll, 2002; Connor & Davidson, 2003; Friborg et al., 2003; Oshio et al., 2003; Sinclair & Wallston, 2004; Wagnild & Young, 1993). While the authors reported that all six instruments had limitations in terms of psychometric properties, they determined the RS to be the best instrument to study resilience in the adolescent population due to its psychometric properties and applications in a range of age groups (Ahern et al., 2006). The Adolescent Resilience Scale (ARS; Oshio et al., 2003), the Connor-Davidson Resilience Scale (CD-RISC; Connor & Davidson, 2003) and the Resilience Scale for Adults (RSA; Friborg et al., 2003) also demonstrated acceptable credibility, however, needed further application with adolescent populations (Ahern et al., 2006). The Baruth Protective Factors Inventory (BPFI; Baruth & Carroll, 2002) and the Brief-Resilient Coping Scale (BRCS; Sinclair & Wallston, 2004) lacked evidence of appropriateness to administer to the adolescent population (Ahern et al., 2006).

Windle et al. (2011) conducted a methodological review of resilience measurement scales developed for use in general and clinical populations. They were able to include 15 measures of resilience in their review in part because they included an adult population and also due to the gap of years from the previously reported review. The researchers criticised the review conducted by Ahern et al. (2006); they felt their review was detailed, but they noted that their quality assessment had limitations in that they did not use explicit criteria

defining what establishes good measurement properties (Windle et al., 2011). In order to address this flaw, Windle et al. (2011) used published quality assessment criteria (Terwee et al., 2007) to score each measure's psychometric properties. The criteria addressed content, criterion and construct validity, internal consistency, reproducibility, responsiveness, interpretability, as well as floor and ceiling effects (Terwee et al., 2007). Similarly to Ahern et al. (2006), Windle et al. (2011) also found it difficult to assess the measures because they all had missing information regarding psychometric properties. However, based on their review, the CD-RISC, the RSA and the Brief Resilience Scale (Smith et al., 2008) received the highest ratings, obtaining a rate of moderately good (Windle et al., 2011). The RS was also well positioned within the quality assessment ratings, achieving maximum score in content validity and construct validity and acceptable scores in internal consistency and interpretability (Windle et al., 2011).

Conclusions

The evaluation process of the psychometric properties of instruments is a complex and laborious venture (Ahern et al., 2006). When measures have reports or manuals available, this task can be easier in that it allows researchers to gain a better understanding of the measure, its norms, standardisations, reliabilities and validities (Ahern et al., 2006). However, when this information is not available, or at least not centralised in a manual, it can be extremely complicated to understand the measure.

Despite the inexistence, according to some authors, of a current *gold standard* measure of resilience, the majority of the studies in resilience have used self-reported assessments, and one of the most accepted and well-established measures is the RS (Dias, Cadime, & Perim, 2016). The adaptation of this scale for approximately 40 languages makes it one of the most

published and most adapted to different cultures and age groups (Ahern et al., 2006; Dias et al., 2016; Ospina Muñoz, 2007; Windle et al., 2011).

Over the years, the creators of the scale have recognised a number of limitations within the scale, particularly in terms of potential bias due to all the items being worded positively and keyed in the same direction. However, this has not been changed to date. The inclusion of low resilience items, as well as negatively worded items, could be piloted to address these limitations (Wagnild & Young, 1993).

Overall, this critique has found that the RS has a number of good psychometric properties, particularly in terms of internal consistency, construct validity and concurrent validity. The scale would benefit from more research on its test-retest reliability, as well as its predictive validity, for example through its application in longitudinal studies. Despite this, the RS has a considerable research base and appears to fit into its intended applied field. It is always recommended that researchers verify the norms and adaptations of the scale to the particular country/population where they intend to use it.

The RS appears to be effective for use in large populations, however, it is likely to be more valuable when used in combination with other instruments (depending on the researchers/practitioners' needs) in order to achieve more comprehensive results. It would be interesting to further assess the capacity of the RS to contribute towards resilience in a forensic arena, such as with a police and/or offender population. These populations have not, thus far, been extensively examined using the RS with only a small number of studies reporting its use in these contexts (e.g., Gupta, Sood, & Bakhshi, 2012). As such, research could have the potential to contribute to these forensic areas whilst also increasing the already large scope of the RS.

Chapter 4 of this thesis attempts to take forward these recommendations by using the RS for research purposes with a sample of Portuguese police officers, as mentioned in the previous chapter.

CHAPTER 4

Protective and enabling factors that facilitate undercover police work

Note: Preliminary results of the quantitative study included in this project were presented at two conferences through communication in form of Poster.

Cajada, L., Bishopp, D. *Protective and Enabling Factors that facilitate Undercover Police Work*. Poster presented at: Division of Forensic Psychology (DFP) Annual Conference 2018, June 19th – 21st, 2018, Newcastle, England

Cajada, L., Bishopp, D. *Protective and Enabling Factors that facilitate Undercover Police Work*. Poster presented at: 12th Annual Research Poster Conference, June 13th, 2018, Birmingham, England

Abstract

Inadequate coping strategies in dealing with occupational stress have been linked to risk factors such as burnout. Research in police forces has somewhat overlooked protective factors that sustain this type of work. This study aimed to explore resilience, coping and detection avoidance strategies that enable police officers to be effective undercover operatives.

This research used a convergent mixed methods design. Participants were recruited from a Portuguese Police Force. A probability-based survey using a list-based sampling frame was used to recruit participants via their police command structure. One hundred and fourteen officers working in criminal investigation, with and without undercover/plainclothes experience, participated in the survey. Twenty-five police officers with prior undercover/plainclothes experience were interviewed using non-probability purposive sampling.

Results of the quantitative study did not confirm statistically significant differences between officers with and without undercover/plainclothes experience in resilience, cognitive flexibility and emotional stability. There were, however, statistically significant differences in surgency. Fewer officers with undercover/plainclothes experience reported an ability to deceive than expected. Further analyses were conducted. Results of the qualitative study identified seven themes which addressed the research questions: '*Secrecy*'; '*Work Satisfaction*'; '*Undercover Tactics*'; '*Stress*'; '*Deception*'; '*Support*' and '*Things to Improve*'.

Overall, the findings of this study provide some support to the scarce literature available on this topic. Participants in both studies appear to be fairly resilient. The qualitative study indicates they generally seem able to cope well with detection avoidance strategies (e.g., secrecy, adaptation to the environment, use of cover stories/improvisation, deception and submersion to fictitious identities). Having an appropriate selection of undercover

operatives is crucial to determine their psychological health and safety. The need for more research in this area was highlighted and discussed in reference to alternative study designs. In addition, an overview of implications for practice is provided.

“...Undercover agents do not retire; they just go deeper.”

(NCIS: Los Angeles, 2010)

Introduction

Law enforcement officers, and in particular undercover operatives, have been reported to experience high levels of stress (Anshel, 2000; Arter, 2008; Dantzer, 1987; Loo, 1984). This is due to being exposed to very high risks including risk of detection, physical injury and violence (e.g., through retribution), as well as risk to their psychological well-being (e.g., spending long periods of time living as someone else, without the support of friends or family) (Geller, 1993; House Affairs Committee, 2013; Macleod, 1995). Unfortunately, there is scant literature referring to undercover policing and even less published research concerning the psychological aspects of UCO's (Jacobs, 1992; Macleod, 1995). It is suggested that this is due to the clandestine nature inherent to this type of work as well as to the law enforcement's vaunted closure to 'outsiders' (Jacobs, 1992; Kowalczyk & Sharps, 2017).

Within the available literature in this area however, it is clear that the fundamental objective of all undercover operations is to develop prosecutable evidence through access to individuals and their activities from the inside (Miller, 2006). To achieve this, depending on the type of operation, different methods of cover are employed ranging from short-term “buy-bust” scenarios (i.e., catching the suspect in small illegal transactions by pretending to have an interest in the product), to long-term processes (i.e., infiltrations that can take months or years) (Band & Sheehan, 1999). Moreover, the most basic level of undercover operation is ‘plainclothes’ surveillance and enforcement, which is led by non-uniformed police officers, who, when the deal has been made, identify themselves and make the necessary detentions

and seizures (Miller, 2006). In some cases, they may call other teams to handle this, in order to preserve their identity. The next level of undercover operation is ‘deep undercover’ which involves changing the identity of the officer with false documents, altering his/her appearance through grooming and attire, and restricting contact with family, friends and colleagues (Miller, 2006). These operations (both short and long), seem to have a shared principle which is, the cover agent “has to pretend to be someone else by falsifying his/her true identity and acting out a part designed to create trust and acceptance by the targeted persons” (Girodo, Deck, & Morrison, 2002, p. 631-2, cited in Edelman, 2010).

Psychologically, the core of these operations is underpinned by the same principle: “UCO’s knowingly and purposefully develop relationships that they will eventually betray” (Miller, 2006, p. 2). When considering all the aspects of undercover policing, mentioned above, it is crucial to bear in mind the difficulties associated with this kind of job and the potential for stress and traumatic reactions that derive from it and that can impact on meeting task demands (Love et al., 2008). See Chapter 1 for further detail on the potential stressors that have been associated with undercover policing.

A few studies found clinical symptoms reported by UCO’s and compared these in relation to the UCO’s status (i.e., currently undercover, formerly, and with no undercover experience). Farkas (1986), reported in his study that anxiety, loneliness/isolation, over-suspiciousness, problems within relationships and marriages, and alcohol abuse were the most frequently indicated symptoms by UCO’s at the termination of their undercover assignments. Furthermore, he found that an increase in time spent undercover was linked to a decrease in the level of psychological symptoms experienced by UCO’s (Farkas, 1986). Girodo (1991b) found a link between undercover experience and a wide range of clinical symptoms consistent with the Symptom Checklist-90 (SCL-90), although he did not specify the symptoms. It is

important to note that Girodo's paper was the only source that found a positive link between psychological issues and length of service as a UCO (Kowalczyk & Sharps, 2017). In a different study, Girodo found a positive correlation between undercover experience, drug use and disciplinary actions (1991a). Love et al. (2008) found no significant links between the length of service and psychological symptoms. In effect, they found that current UCO's reported lower levels of clinical symptoms in comparison to former UCO's or officers without undercover experience (Love et al., 2008). This may be explained due to UCO's perceptions of the positive features embedded in undercover operations. UCO's reported being a member of a cohesive team, being supervised by managers who use a democratic style and treat them as equals, and perceiving that their assignments were of high importance/priority to society (Love et al., 2008).

In general, symptom themes found in research demonstrate that UCO's and conventional police officers show highly similar symptom profiles, which is suggestive of similar origins and coping strategies being used by both groups. However, some specific symptoms – 'divergent' – are more likely to be found in UCO's than in their counterparts (Kowalczyk & Sharps, 2017). These include isolation/loneliness, fear of abandonment, hallucinations, depersonalisation, persona re-emergence, perceived lack of administrative support, sympathy towards some criminals and memory impairment (Kowalczyk & Sharps, 2017). Depression and anxiety were also found to be common following an undercover operation, especially if the UCO's were not allowed to discuss their experiences (Kowalczyk & Sharps, 2017; Macleod, 1995). Trait anxiety has been characterised by a predisposition for a fairly stable level of anxiety, reflected in a tendency to perceive situations as threatening or stressful (Spielberger, Gorsuch, Lushene, Vagg, & Jacobs, 1983), which may be worsened by a lack of engagement in active coping (Picañol, 2009). Carver, Scheier, and Weintraub (1989)

demonstrated in their study of coping, that positive characteristics of personality such as optimism, hardiness, feeling in control, and self-esteem were associated with active coping strategies. In contrast, negative characteristics of personality were positively correlated to trait anxiety and negatively correlated to the above-mentioned positive characteristics (Picañol, 2009).

In a study with police officers, Lawrence (1984) demonstrated that officers with rigid personalities were able to cope better in comparison to officers who were less rigid. An inference can be made that officers with a rigid personality are more likely to be inflexible and 'set in their ways' when dealing with the aspects of the job, which has been suggested to be effective, and in turn, this can prevent them from allowing the emotional aspect to interfere with the job (Picañol, 2009). In contrast, officers with a less rigid personality may contemplate the different aspects of the job, which could allow the emotional factor to have an affect on their performance (Picañol, 2009).

So far, few studies have linked undercover policing and personality changes. Girodo (1984) categorised four patterns of behaviour in a study with former Canadian UCO's. The medallist syndrome (i.e., post-undercover assignment inflated ego); the primate syndrome (i.e., demonstrated by aggressive and emotional outbursts); the process of rhetorical drama (i.e., re-emergence of the undercover role, after being removed); and the acute paranoid reaction (i.e., demonstrated through hypervigilance and anxiety) (Girodo, 1984). Macleod (1995) found similar evidence with UCO's in New Zealand. He suggested that the 'rush' of undercover assignments exacerbated their narcissistic traits and made agents demonstrate a self-centred, grandiose, unique, competitive, independent and presumptuous character. Furthermore, it was reported that 'moderate'/'healthy' narcissism correlated with success in the undercover operations, as it served a primary survival value (Macleod, 1995; Millon &

Davis, 1996, 2000). However, excessive narcissistic traits would make the agents too vulnerable to narcissistic injuries which, in turn, made them unsuitable for the role (Macleod, 1995).

Some studies have identified desirable qualities and attributes required from UCO's, as well as undesirable characteristics. The 'ideal UCO' should have a profile consistent with the following characteristics: be an experienced officer with weapons/tactics/legal principles knowledge; have a secure police identity; have life experience (and mature age) outside the police; be willing to accept training and supervision; volunteer for the undercover assignment and actually believe in its effectiveness (Band & Sheehan, 1999; Macleod, 1995; Miller, 2006). The officers are expected to: demonstrate appropriate ethical and moral values; be motivated by a pride to participate in undercover work (instead of applying for it to 'run away' from their normal duties); and demonstrate perseverance, proficiency, flexibility and resourcefulness as well as adaptability to ever changing scenarios (Band & Sheehan, 1999; Miller, 2006). Moreover, it is anticipated that they should be 'convincing actors' and have good coping skills while maintaining their core beliefs and commitment to the missions, which often translates into being available to spend long periods of time away from their family and friends (Band & Sheehan, 1999; Miller, 2006). They should also be able to exert good judgement and calm behaviour while under considerable amounts of stress; demonstrate high levels of self-confidence and a self-perception of effectiveness (i.e., when a moderate dosage of narcissistic traits can be useful); be decisive and capable of working independently as well as in a team (Band & Sheehan, 1999; Macleod, 1995; Miller, 2006).

In terms of qualifications, they should not have any conflicts at work or home and they should have task-relevant skills such as personal background (e.g., ethnicity, race, age) or practical knowledge (Miller, 2006). Finally, UCO's are not expected to be prone to

distractibility or impulsivity and have mental health vulnerabilities (e.g., anxiety and depression). Instead, they are expected to be stress-resilient, psychologically stable and able to form and maintain relationships with a variety of different people which they will eventually betray (Band & Sheehan, 1999; Macleod, 1995; Miller, 2006).

Concurrent with the above-mentioned ideal characteristics, the Michigan Department of State Police (1990) issued a list of performance areas required for successful UCO's performance after conducting a study within the department. The list included the following broad areas: flexibility (i.e., to adapt to different and changing situations); stress tolerance; team orientation and interpersonal skill (i.e., ability to fit and establish relationships with different types of people); decision making (i.e., ability to respond logically); group leadership; as well as oral and written communication (i.e., listen effectively and write using proper grammar and clarity) (Michigan Department of State Police, 1990). Further key areas were: organisation and planning; motivation; attention to detail; political sensitivity (i.e., ability to use diplomacy within a political environment amongst different agencies); persuasiveness; basic law enforcement and undercover officer orientation (i.e., having the skill and background knowledge of investigation); and appropriate caution and restraint (i.e., ability to consider the safety of self and others) (Michigan Department of State Police, 1990).

A final desirable characteristic key to the ability to carry out undercover work is the ability to deceive in order to submerge into a fictitious identity (Jacobs, 1992). Agents are expected to 'fit in' with targeted groups and cultures in ways that conceal their identity (Jacobs, 1992). To achieve this, UCO's must prepare themselves using a series of techniques. Rehearsal appears to be the first stage, where agents prepare themselves by studying the targets' background and connections with a view to establishing their credibility. However, it is known that it is impossible to address all possibilities and, therefore, improvisation is

crucial (Ekman, 2001; Jacobs, 1992). The second stage requires a manipulation of appearance (Jacobs, 1992), using matching appearance and attire to the targeted group. The third stage is a verbal diversion, where the UCO learns to communicate effectively with the targets through analysing their goals and merge them in deceptive communication (e.g., extra-linguistic manipulation) (Jacobs, 1992). The fourth and final stage is a physical diversion, which provides support to the verbal diversion and requires the UCO to manipulate his/her body language and present deceptive ‘props’ during the encounters with the targets (Jacobs, 1992).

In order to efficiently use the above-mentioned techniques, it is important for UCO’s to have abilities and skills that allow them to coordinate dialogue, voice tone, and body language in a convincing manner so that their identity remains concealed (Jacobs, 1992). Competency in using these techniques is of paramount importance; if anxiety surfaces and the UCO demonstrates his/her real identity, their credibility can be undermined and their safety endangered (Jacobs, 1992).

Vrij, Granhag, and Mann (2010) authored one of the few articles addressing what constitutes a ‘good liar’. The list compiled was the result of numerous studies conducted by the authors and other researchers on the deception theory, people's views about how liars react, persuasion theory and impression formation theory. It established some criteria that is deemed relevant for effective deception and could aide UCO’s in portraying convincing characters during their operations. According to the authors, good liars are people whose natural behaviour does not attract suspicion; do not find it cognitively challenging to lie; and do not experience emotions such as “fear, guilt or duping delight” when being deceptive (Vrij, 2008, p. 378).

The criteria included specific characteristics that would benefit ‘good liars’ including, in terms of personality, being manipulators (i.e., high in Machiavellianism), good actors and

expressive (because they seem more credible). It was also considered desirable to be physically attractive, as well as being a natural performer (Ekman & Frank, 1993; Vrij et al., 2010). In relation to emotions, as previously mentioned, it would be preferable if feelings of guilt and fear were not experienced. According to Ekman (2001), spies may have this characteristic inherently because lying is 'authorised' since they are 'doing good' by protecting the interests of their country and because values are not shared with the targeted group. Experiencing little guilt due to this 'permission' to lie may significantly help UCO's in concealing this emotion. Moreover, it was expected that experience in lying and feeling confident while doing so would help in masking or disguising guilt or fear (Vrij et al., 2010). The capacity to maintain a low cognitive load while lying was also deemed relevant. Good liars should choose concealing information instead of using outright lies whenever possible, be eloquent, well prepared, say as little as possible and say things that are impossible to verify, as well as use original and rapid thinking (i.e., having an ability to come up rapidly with answers) (Vrij et al., 2010). Being intelligent, having a good memory, staying with the truth (or approximations) and using good decoding skills (i.e., being quick in noticing suspicion in others) were also considered key characteristics for effective deception (Vrij, 2008; Vrij et al., 2010).

In summary, additional research is critically needed in this area. Undercover operations greatly contribute to the work developed by law enforcement agencies as well as to protect society, and the extant literature in this area is very limited and dated. As mentioned in Chapter 1, good selection of officers; adequate field training; having an efficient supervisor; and having psychological monitoring and intervention services available, can decrease the frequency and severity of casualties within this line of work (Macleod, 1995). On the other hand, failing to identify and recruit adequate officers for undercover roles and neglecting the

agent's mental health can compromise the whole operation as well as the officer's well-being (Miller, 2006). Findings in this area can support decision-making at selection and recruitment, as well as have an important impact on the well-being and safety of UCO's and mainstream police officers.

Research Aims and Hypotheses

This study aimed to examine resilience, coping and detection avoidance strategies in undercover police officers. To achieve this, it explored a number of factors which contribute to resilience in undercover police officers, as it would seem that resilience in the specific context of undercover police work would encompass various core skills, competencies and/or attributes which help to facilitate such work and mitigate against any negative outcomes associated with it. Negative outcomes may include high levels of occupational stress with the use of inadequate coping strategies, leading to risk factors such as burnout and depersonalisation (Brough & Biggs, 2010; Farkas, 1986).

A mixed-methods approach was chosen as this allows for the exploration of aims and hypotheses at different levels of analysis (e.g., examining scores, making comparisons, gathering more enriched experiential information from participants). By using both quantitative and qualitative methods, the researcher intended to bring together a more comprehensive account of the interaction between the different variables under study, by grounding the findings in the individuals' experiences.

Quantitative Study.

It was hypothesised that officers who cope well with undercover work would have personality attributes which would include mental abilities such as flexible and adaptive thinking, as well as emotional capacities such as low levels of anxiety. The framework adopted here was the Big Five personality model. The Big Five is considered to be a useful

framework for assessing a range of personality traits in modern personality theory (Goldberg, 1992; Goldberg et al., 2006), including sociability, anxiety, cognitive flexibility, intelligence and conscientiousness.

Being able to deceive effectively was also considered a core role of the coping strategies as not all people are effective liars, for example, being able to play the role of a criminal which might facilitate access to the target groups under investigation. In part, these features can be considered a product of personality traits (cognitive flexibility, intelligence, and low anxiety), but it was also deemed necessary to directly assess these traits via specific questions concerning the officer's perceived ability to lie and to maintain secrecy.

Hypotheses:

- Hypothesis 1: Undercover police officers will be more resilient than non-undercover police officers
- Hypothesis 2: Undercover police officers will score higher on cognitive flexibility than non-undercover police officers
- Hypothesis 3: Undercover police officers will score higher on emotional stability and surgency than non-undercover police officers
- Hypothesis 4: Undercover police officers will report an ability to deceive effectively

Qualitative Study.

The study aimed to explore the officers' perceptions of their coping strategies, abilities to meet their job demands and to maintain secrecy/deception (both professionally and personally) given the undercover nature of the work they do. The interview schedule is provided in the Appendix Z.

Methodology

Sample

A total of 114 Portuguese police officers, working in criminal investigation with and without prior undercover/plainclothes experience, participated in the quantitative study.

Twenty-five Portuguese police officers with prior undercover/plainclothes experience participated in the qualitative study.

Quantitative Study.

Participants were required to complete a battery of psychometric tests on resilience and core competencies/traits. One hundred and fourteen ($n = 101$ male; $n = 12$ female; $n = 1$ did not provide the information) participants started the battery of assessments, however, not all participants provided complete information. A data reduction was conducted in order to only include information from participants who completed at least one of the psychometric instruments (i.e., $n = 107$). One hundred and seven participants completed the Resilience Scale ($n = 95$ male; $n = 12$ female). One hundred participants completed the International Personality Item Pool (IPIP) Big-Five Factor Markers ($n = 88$ male; $n = 12$ female). Ninety-five participants completed the Cognitive Flexibility Inventory ($n = 83$ male; $n = 12$ female). Ninety-three participants completed the Deception Inventory ($n = 82$ male; $n = 11$ female), as well as all the remaining scales. The percentage of eligible people who participated in the study is unknown; a limitation which is addressed later in this chapter.

The mean age of participants was 41.55 years ($SD = 4.89$, range 30–54). One participant indicated s/he had a disability however s/he did not specify what type. As demonstrated in Figure 3, the majority of participants were married ($n = 72$) and the minority ($n = 1$) was a widower.

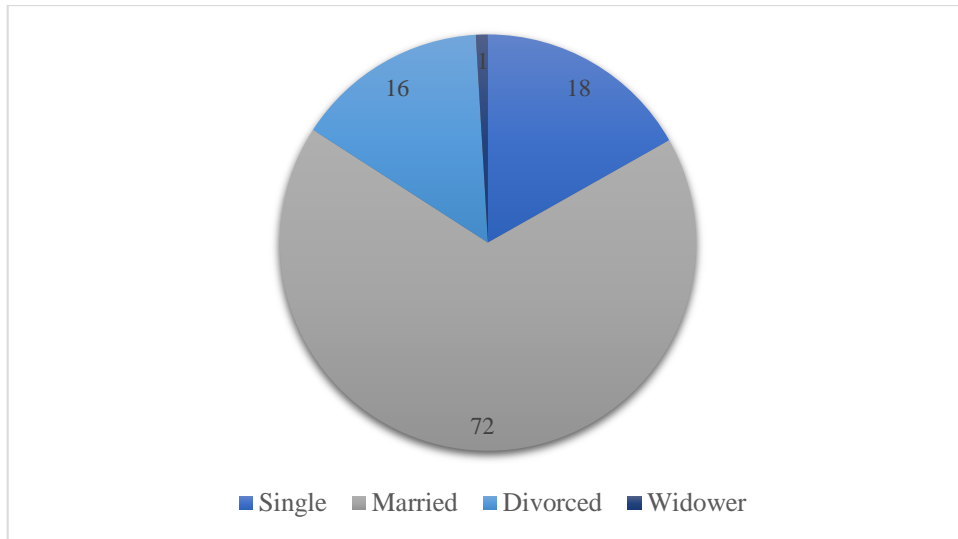


Figure 3. Marital Status of Participants

Eighty-two participants were police officers with prior undercover/plainclothes experience, and 25 participants were police officers without undercover/plainclothes experience. The average time of experience in the police force was 19.20 years ($SD = 5.43$, range 5–36) (see Figure 4). The average time of experience as an undercover/plainclothes police officer, when applicable, was 10.07 years ($SD = 5.86$, range 2–27) (see Figure 5). Note that of the 82 participants who confirmed having prior undercover/plainclothes experience, only 58 provided further details regarding the length of their experience. For an overview of the demographic information, split between police officers with and without undercover/plainclothes experience, refer to Table 9.

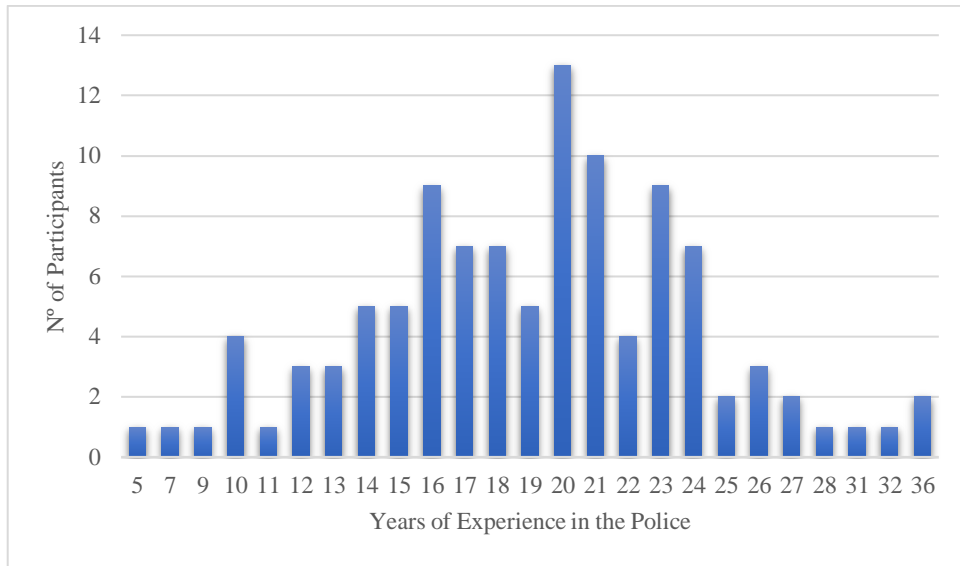


Figure 4. Total Time of Experience in the Police Force

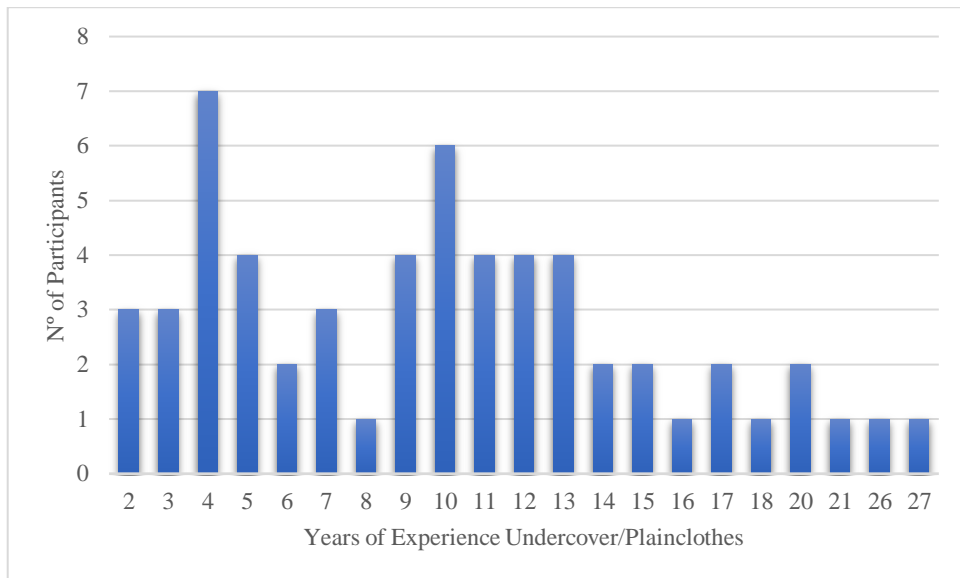


Figure 5. Time of Undercover/Plainclothes Experience

Table 9

Summary of Demographic Data (Quantitative Study) Split Between UCO's and Non-UCO's

Demographic Data		UCO's			Non-UCO's			Total
		Frequency	N	Mean Std. Deviation	Frequency	N	Mean Std. Deviation	
Gender	Male	75			20			
	Female	7			5			
Total			82			25		107
Age	Age Range	31-54		41.59 4.67	30-52		41.44 5.64	
	Total		82			25		107
Disability	Yes	1			0			
	No	81			25			
Total			82			25		107
Marital Status	Single	15			3			
	Married	50			22			
	Divorced	16			0			
	Widower	1			0			
Total			82			25		107
Experience in Police Force	Years Range	5-36		19.13 5.14	7-36		19.40 6.41	
	Total		82			25		107
Experience as UCO	Years Range	2-27		10.07 5.86				
	Total		58					58

Qualitative Study.

Twenty-five ($n = 22$ male; $n = 3$ female) police officers with prior undercover/plainclothes experience were interviewed, using semi-structured interviews. The mean age of participants was 40.44 ($SD = 7.73$, range 26–55) at the time of the interview. No participants indicated having a disability. As indicated in Figure 6, the majority of participants were married ($n = 14$) and the minority were divorced ($n = 3$).

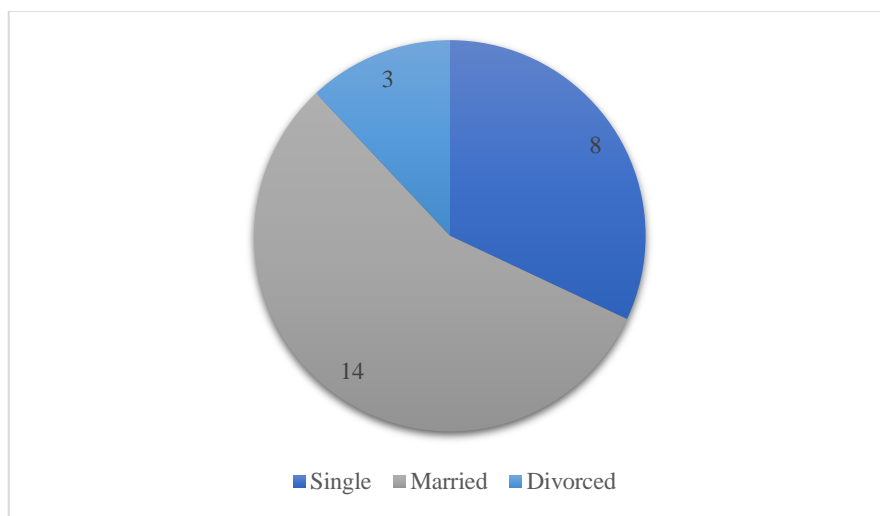


Figure 6. Marital Status of Participants

The average time of experience in the police force was 17.44 years ($SD = 8.10$, range 1–39) (see Figure 7). The average time of experience as an undercover/plainclothes police officer was 10.16 years ($SD = 5.81$, range 4 months/0–21 years) (see Figure 8). For an overview of the demographic information refer to Table 10.

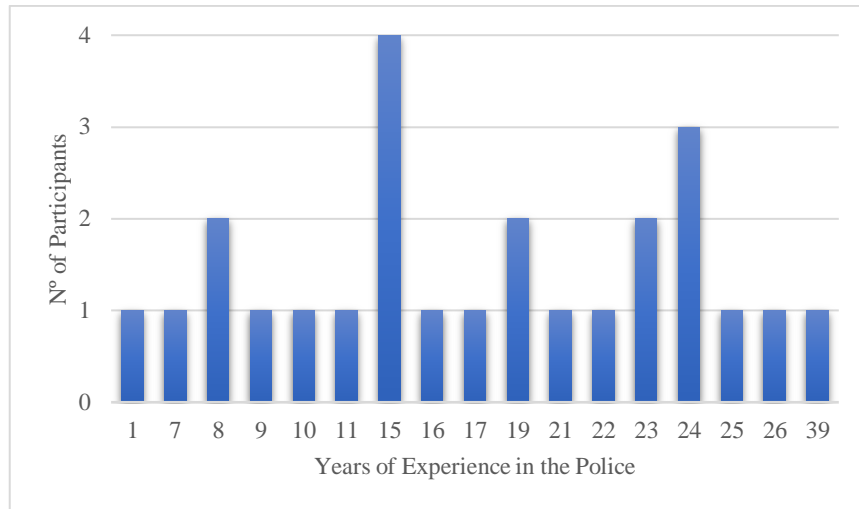


Figure 7. Total Time of Experience in the Police Force

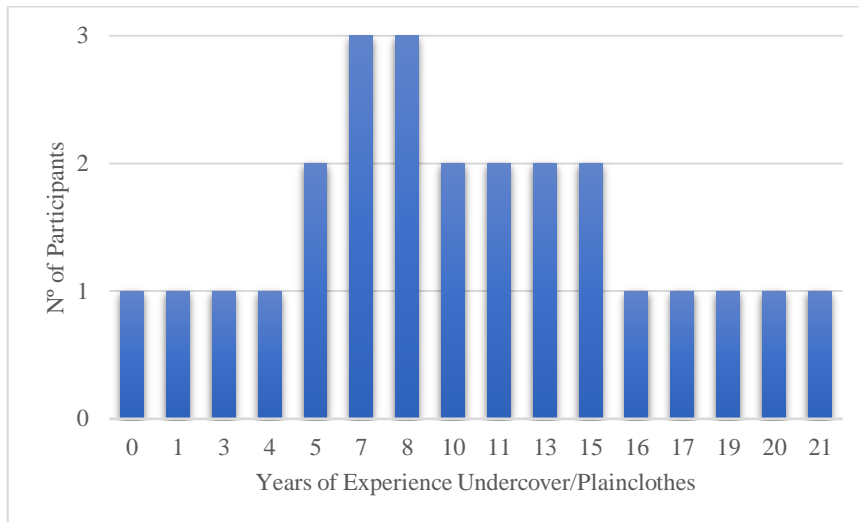


Figure 8. Time of Undercover/Plainclothes Experience

Table 10

Summary of Demographic Data (Qualitative Study)

Demographic Data		Frequency	N	Mean	Std. Deviation
Gender	Male	22	25	40.44	7.73
	Female	3			
Total			25		
Age	Age Range	26-55	25	40.44	7.73
Total					
Disability	Yes	0			

	No	25		
Total			25	
Marital Status	Single	8		
	Married	14		
	Divorced	3		
Total			25	
Experience in Police Force	Years Range	1-39	17.44	8.10
Total			25	
Experience as UCO	Months/Years Range	4 months/0-21	10.16	5.81
Total			25	

Design & Procedure

A convergent mixed methods design was chosen to conduct this study. In the convergent design, quantitative data and results produce general tendencies and relationships, while qualitative results provide in-depth individual perspectives (Creswell, 2015).

The purpose of using *expansion* mixed methods was to use different methods to increase the depth and breadth of research results and interpretations, through their analyses from different perspectives (i.e., use the most appropriate methods for the different components under study) (Greene, Caracelli, & Graham, 1989). To this effect, the researcher concurrently collected the data and then integrated the information in the interpretation of the overall results and discussion. Both methods informed each other and had equal emphasis in the results of the study.

Quantitative Study.

The sample group for the quantitative study was made of police officers with and without prior undercover/plainclothes experience, from a Portuguese Police Force. Following a proposal being made to the police force regarding the need to examine police officers with undercover/plainclothes experience, participation in the study was encouraged by the command of the police force. This is, in part, the reason why the percentage of police officers

with this specific type of experience are more highly represented in the sample described in the section above. It was not, however, possible to determine how representative this group was in terms of occupational/demographic structure since this was a self-selecting sample. A probability-based survey using a list-based sampling frame with e-mail addresses was used to recruit participants from all over the country via their police command structure. Within the e-mail sent by their command to potential participants there was an attachment with the participant information sheet (see Appendices L-O) explaining the objectives of the study and what was required from them. The battery of psychometric assessments was placed online, using an online survey tool, LimeSurvey. Within the survey participants had to click to provide their written consent to participate in the study before proceeding to any questions.

The instruments used (see Materials and Measures section) were chosen based on their psychometric properties and due to already being validated and translated into Portuguese. This was the case for all instruments except the Deception Inventory which is still in the process of being validated. Due to the researcher being one of the authors of the instrument and bilingual (Portuguese and English), the translation of this instrument was done simultaneously.

Qualitative Study.

Non-probability purposive sampling was used to recruit participants for the qualitative study. The semi-structured interviews were conducted in person with police officers who had undercover/plainclothes experience. Interviews lasted between fourteen minutes and one and a half hours, with an average of half an hour per interview. These were audio recorded to ensure participants' responses during the interview could be accurately recorded and transcribed in preparation for the analysis of data. The officers who participated belonged to

teams based across the country (i.e., north, centre and south of Portugal) and the interviews were conducted in their respective bases, as per agreement with their operational command.

The interview schedule was translated into Portuguese and the interviews were conducted in Portuguese. The interviews were then transcribed and translated back into English to be analysed.

For the participants to take part in the research, and before the interview began, they received a participant information sheet containing all the details of the research and the name and contact details of the interviewer as well as the supervisor of the project. The officers were also asked to sign a written consent form (see Appendices J and K). The names of the participants were all re-coded to numbers to guarantee the absolute anonymity of the data. At the end of the interview the participants had an opportunity to ask questions and volunteer any information that they did not have a chance to provide previously. They were also advised that they would be able to access the results of the study once the thesis was completed.

Materials & Measures

Quantitative Study.

The psychometric assessment was only administered once and it encompassed the following questionnaires: Resilience Scale (RS; Wagnild & Young, 1993), and Cognitive Flexibility Inventory (CFI; Dennis & Vander Wal, 2010). A tool developed by the researchers for assessing deception was also used (The Deception Inventory- DI) (see Appendices R, S and V-Y). In addition to this, some of the personality attributes that might enable working undercover (e.g., conscientiousness) were assessed through a personality checklist covering the Big Five personality traits (International Personality Item Pool (IPIP) Big-Five Factor Markers (Goldberg, 2001) (see Appendices T and U).

Resilience Scale (RS; Wagnild & Young, 1993).

The Resilience Scale is a 25-item self-report assessment tool that measures the degree of individual resilience focusing on positive psychological characteristics instead of deficits. Participants are required to rate, using a 7-point Likert item, how much they agree or disagree with the statements and how much they identify with them. The five characteristics underpinning the RS are equanimity, perseverance, meaningfulness, self-reliance and existential aloneness. The scale loads onto two factors: personal competence which is comprised of 17 items, and acceptance of self and life which is comprised of 8 items. All items are worded positively and possible scores range from 25 to 175, with higher scores reflecting higher levels of resilience. The scale has a high internal consistency with a coefficient alpha of 0.91. Item-to-total correlations range from 0.37 to 0.75, with the majority falling between 0.50 and 0.70 all being significant at $p < 0.001$.

Cognitive Flexibility Inventory (CFI; Dennis & Vander Wal, 2010).

The Cognitive Flexibility Inventory is a 20-item self-report questionnaire developed to measure an individual's potential for challenging maladaptive cognitions. Items are answered on a 7-point Likert-type scale according to the extent that they accurately describe the respondent's approach to challenging situations. The CFI has two subscales: The control subscale assesses perceived control over situations; the alternatives subscale assesses the ability to perceive alternatives to difficult situations. The scoring procedures for this instrument require reverse scoring of specific items and a sum obtains a total score. Higher scores are indicative of greater cognitive flexibility, which is associated with greater cognitive adaptability when the individual is facing stressful situations. The scale has an internal consistency ranging from good to excellent, with a Cronbach's alpha for the CFI full scale

(Time 1 = 0.90; Time 2 = 0.91), Alternatives subscale (Time 1 = 0.91; Time 2 = 0.91), and Control subscale (Time 1 = 0.86; Time 2 = 0.84).

Deception Inventory (DI; Cajada & Bishopp, 2016).

The Deception Inventory was created by the researcher and her supervisor and it is still in the process of validation. The instrument is intended to measure individuals' perceptions of deception including their abilities to be deceptive and their feelings towards deception. The measure also explores personality traits, such as conscientiousness, as well as traits associated with low fear or low guilt such as those found within the dark triad traits (i.e., Machiavellianism, narcissism, and psychopathy), which support deceptive abilities (Jonason, Lyons, Baughman, & Vernon, 2014). The tool was informed by other validated instruments which include social desirability scales and deception scales such as the Paulhus Deception Scales (PDS; Paulhus, 1998) and psychopathy scales such as the Psychopathy Checklist – revised (PCL-R; Hare, 2003). It was also influenced by personality instruments such as the Minnesota Multiphasic Personality Inventory-2 (MMPI-2; Butcher, Dahlstrom, Graham, Tellegen, & Kreamer, 1989). The Good Liars article authored by Vrij et al. (2010) also shaped the construct measured by this instrument. The Deception Inventory is a 20-item self-report questionnaire, where participants are required to rate, using a 5-point Likert-type scale, how much they agree or disagree with the statements and how much they identify with them. The scoring procedures for this instrument require reverse scoring of specific items and a sum obtains a total score, which ranges between 0-80. Initial analysis supported the internal consistency of the questionnaire, achieving a good reliability with Cronbach's alpha coefficients at 0.76. The aim would be to further develop this instrument by exploring the factorial structure or via the use of multidimensional scaling. At this stage the instrument was treated as having a single dimension.

International Personality Item Pool (IPIP) Big-Five Factor Markers (Goldberg, 2001).

The IPIP is a 50-item self-report questionnaire comprised of several scales that measure multiple psychological constructs. It assesses five major dimensions of personality: (1) surgency/extraversion, (2) agreeableness, (3) conscientiousness, (4) emotional stability, and (5) intellect. Participants are instructed to rate, using a 5-point Likert-type scale, the extent to which each self-referent descriptive phrases accurately reflect how they are generally or typically, as compared with other persons they know of the same sex and approximately the same age. The scoring procedures for this instrument require reverse scoring of specific items and total scores indicate relative levels of each of the five personality dimensions through summing up the values of their component items. The scale has a good internal consistency, with a Cronbach's alpha for the full scale of 0.84, surgency/extraversion subscale of 0.87, agreeableness subscale of 0.82, conscientiousness subscale of 0.79, emotional stability subscale of 0.86, and intellect subscale of 0.84.

In addition, a data collection proforma was used for gathering details of social support and sociodemographic information including gender, age, and marital status, as these are considered relevant factors that influence individuals' levels of resilience and coping styles (Balmer et al., 2014). This proforma also included questions regarding nationality, length of work in the police force and, when applicable, length of work as an undercover/plainclothes officer (see Appendices P and Q).

Qualitative Study.

The schedule of the semi-structured interviews was created with the objective of exploring the officers' perceptions of their coping strategies, abilities to meet their job demands and to maintain secrecy/deception (both professionally and personally) given the

undercover nature of the work they do (see Appendices Z and AA). The interview considered their perceived strategies and personal characteristics which could facilitate the officers' capacity to be deceptive/keep secrets and maintain cover, whilst also exploring the types of support available to cope with these pressures. The final questions aimed to investigate the psychological support available within their organisation and the potential need for this and other types of further support. Some questions integrated previous knowledge from the literature of what makes undercover operatives effective, as discussed in the introduction of this chapter. All the questions in the interview were intended to allow participants to express their opinions freely.

Ethical Considerations

The research study was approved, reviewed and carried out in accordance with the University of Birmingham's Science, Technology, Engineering and Mathematics Ethical Review Committee. Ethical approval for the project was first obtained on the 24th October 2016 (Ref: ERN_16-0955) and the subsequent amendment of the project was fully approved on the 17th October 2017 (Ref: ERN_16-0955A). Furthermore, approval for the study to be conducted was granted by the Portuguese Police Force where participants were recruited on the 17th August 2017 (Ref: 6404/2017/CDF/GAB). See further ethical considerations in Appendix AB and the researcher's reflections in Appendix AC.

Treatment of Data

Quantitative Study.

Statistical analysis was used to interpret the findings from the questionnaires and draw conclusions. All quantitative data were analysed by the author of this study through comparative statistical analyses comparing the two groups on the various measures, using IBM SPSS Statistics 24 software. Non-undercover officers were, essentially, a control group.

Descriptive statistics included mean age of participants and years of experience in the police force as well as undercover/plainclothes experience, when applicable. T-tests were used to examine simple mean differences. Relationships between resilience and the various features were examined using correlations. Furthermore, the reliability of the deception inventory developed for this study was examined. However, given the measure has not been examined and validated on other samples, further work would be required to explore its structural and psychometric properties. As such, the individual responses were cross-tabulated with the group to shed light on officer's perceived ability to deceive.

In addition, in order to explore whether any specific personality traits, as well as cognitive flexibility, were associated with higher levels of resilience, the sample was stratified into high and moderate/low scores based on the norms provided in the Resilience Scale manual (i.e., the data were split to group all participants with scores of 145 and above as highly resilient, and 144 and below as moderately/lowly resilient, using cut-off scores). T-tests were also used to compare these sub-groups.

Qualitative Study.

The qualitative data were analysed using the analytic procedure, *Thematic Analysis*, which was found to be the most appropriate to the study, since the researcher wanted to study exhaustively the participants' perceptions about how they meet their job demands and maintain secrecy/deception, given the undercover nature of the work they do (Cajada, 2011). This technique permitted "identifying, analysing, and reporting patterns (themes) within data" (Braun & Clarke, 2006, p. 79). Through its theoretical independence, this offered a flexible and advantageous approach to analysis, which provided a valuable and meticulous interpretation of data (Braun & Clarke, 2006; Cajada, 2011). In this study, the method used was realist, because it "reported experiences, meanings and the reality of participants" (Braun

& Clarke, 2006, p. 81). The themes that emerged from the data were acknowledged in both inductive (Patton, 2002) and deductive (Hayes, 1997) ways, because on one side they were data driven, and on the other side, the researcher had specific analytic interests (Cajada, 2011). The level at which the themes were recognised was semantic, as the researcher was only interested in what the participants said explicitly (Boyatzis, 1998; Cajada, 2011).

During the process of analysis several steps were taken. At the beginning there was a familiarisation with the data collected in the interviews. This was a straight-forward process as the interviews were carried out by the same person who listened to the audio-recordings, transcribed and then read and re-read the information, which gave some advantage to the understanding of the answers given by the participants. The steps that followed consisted of generating initial codes of comments made by participants, and after that, similar codes were collated into themes and sub-themes; this was an iterative process. To ensure the rigour of the data, regular meetings took place with the academic supervisor to discuss and review the codes and themes. The creation of the thematic map (Attride-Stirling, 2001) was the step that arose after having gathered some sense of the codes and the themes (see Figure 9). This not only allowed for a clearer idea of the themes, but also excluded those that were not entirely supported by the interviews. As such, the penultimate phase consisted of defining the final themes and labelling them. The final phase consisted of writing the thematic analysis, in order to meet the aim of the study. This stage involved writing a complex story of all the relevant data that was found in the previous phases, with the purpose of explaining to the reader what emerged from the interviews (Braun & Clarke, 2006; Cajada, 2011).

Results

Quantitative Study.

The descriptive statistics comprising the means and standard deviations for all the measures on both groups is provided in Table 11, along with the results of the t-tests, which answer the hypotheses set out in the beginning of this chapter.

Table 11

Descriptive Statistics and T-tests for Scores on Measures Comparing UCO's and Non-UCO's

Measure	Current or previous UCO experience	N	Mean	Std. Deviation	Std. Error Mean		t	df	Sig. (2-tailed)
Resilience Scale	Yes	82	142.94	12.293	1.358	Equal variances assumed	1.175	105	.242
	No	25	139.44	15.256	3.051	Equal variances not assumed	1.048	34.046	.302
Alternatives Subscale	Yes	73	73.52	8.599	1.006	Equal variances assumed	-.095	93	.924
	No	22	73.73	9.886	2.108	Equal variances not assumed	-.089	31.196	.930
Control Subscale	Yes	73	38.82	5.579	.653	Equal variances assumed	.758	93	.450
	No	22	37.73	7.018	1.496	Equal variances not assumed	.671	29.447	.508
Surgency Subscale	Yes	75	31.0133	3.83615	.44296	Equal variances assumed	2.032	98	.045
	No	25	29.0800	4.88979	.97796	Equal variances not assumed	1.801	34.388	.081
Agreeableness Subscale	Yes	75	39.3733	5.00209	.57759	Equal variances assumed	1.228	98	.222
	No	25	37.9600	4.92849	.98570	Equal variances not assumed	1.237	41.716	.223
Conscientiousness Subscale	Yes	75	40.8000	4.51723	.52161	Equal variances assumed	-.038	98	.969
	No	25	40.8400	4.49704	.89941	Equal variances not assumed	-.038	41.342	.969
Emotional Stability Subscale	Yes	75	34.4667	5.78052	.66748	Equal variances assumed	-.187	98	.852
	No	25	34.7200	6.12046	1.22409	Equal variances not assumed	-.182	39.268	.857
Intellect Subscale	Yes	75	35.8400	3.79559	.43828	Equal variances assumed	1.978	98	.051
	No	25	34.0400	4.35393	.87079	Equal variances not assumed	1.846	36.931	.073

Hypothesis 1: *Undercover police officers will be more resilient than non-undercover police officers.* This hypothesis was not confirmed. T-tests on the Resilience Scale indicate that there is no statistically significant difference in resilience between participants with and without undercover/plainclothes experience ($t(105) = 1.175, p = .242$).

Hypothesis 2: *Undercover police officers will score higher on cognitive flexibility than non-undercover police officers.* This hypothesis was not confirmed. T-tests on the Cognitive Flexibility Inventory (control and alternatives subscales) indicate that there is no statistically significant difference in cognitive flexibility between participants with and without undercover/plainclothes experience: control subscale ($t(93) = .758, p = .450$) and alternatives subscale ($t(93) = -.095, p = .924$).

Hypothesis 3: *Undercover police officers will score higher on emotional stability and surgency than non-undercover police officers.* This hypothesis was partially confirmed. T-tests on the emotional stability subscale indicate undercover/plainclothes police officers did not score higher than non-undercover ($t(98) = -.187, p = .852$). However, t-tests on the surgency ($t(98) = 2.032, p = .045$) subscale of the International Personality Item Pool Big-Five Factor Markers revealed a statistically significant difference between participants with and without undercover/plainclothes experience, whereby participants with undercover/plainclothes experience scored higher.

Hypothesis 4: *Undercover police officers will report an ability to deceive effectively.* This hypothesis was partially confirmed. Due to the fact that the Deception Inventory has not been validated yet, cross-tabulation of the individual responses provided by officers with undercover/plainclothes experience was used to explore their perceived ability to deceive and manage emotions. The responses indicated officers tend to perceive they do not have a particular ability to deceive others. For example, 34.7% disagreed with the statement “I

consider myself a good liar”, compared to 8.3% whom agreed. The statement “I always tell the truth” achieved 31.9% of agreement and neutral (i.e., neither agreed nor disagreed) and 25% of disagreement. Regarding feeling anxious when lying, 45.8% provided a neutral answer, 23.6% agreed and 19.4% disagreed. Feeling guilty about lying achieved 41.7% of agreement from the officers, compared to 9.7% of disagreement. Similarly, to the statement “I do not feel bad when I tell a lie” 31.9% of officers responded neutrally, 30.6% strongly disagreed and a minority of 8.3% agreed.

In relation to emotional management, 34.7% of the officers provided a neutral answer, whereas 29.2% agreed they are able to hide their emotions well and 26.4% disagreed with the statement. Likewise, 43.1% provided a neutral answer to the statement “I am good at acting in a role”, 27.8% disagreed and 22.2% agreed.

These answers appear to suggest that for the most part, officers with undercover/plainclothes experience do not perceive themselves as compelling liars. However, there appears to be a small subgroup of these police officers, on average just under 10% of participants, with undercover/plainclothes experience, who confirmed the hypothesis by reporting effectiveness at managing and hiding their emotions, as well as being able to deceive others, without feeling guilt or fear. In so doing, these participants agreed with statements which intended to measure features of the dark triad traits (e.g., I do not feel bad when I tell a lie; I am good at manipulating other people). The existence of this sub-group of officers partially confirmed the hypothesis, as these officers reported an ability to deceive effectively by agreeing with statements that were conducive to this hypothesis (e.g., I consider myself a good liar).

In addition to this, reliability statistics were performed to the Deception Inventory and supported the internal consistency of the scale, achieving a good reliability with Cronbach’s alpha coefficients at 0.76. Within this sample scores ranged from 16-55 ($M = 33.7$, $SD =$

7.75). However, further validation of the measure against a range of concurrent and convergent measures, across a range of samples, is still warranted. In support of its construct validity, the Deception Inventory correlated negatively with the agreeableness and conscientiousness subscales from the International Personality Item Pool Big-Five Factor Markers, which is consistent with it tapping into the dark triad traits (see Appendix AD for further detail).

Relationships between resilience and cognitive flexibility, personality measures, deception, age, length of experience in the police force as well as having undercover/plainclothes experience were examined using a Pearson correlation and the following results were achieved. Resilience showed moderate correlations with the Cognitive Flexibility Inventory, on both subscales, as well as with the conscientiousness and intellect subscales from the International Personality Item Pool Big-Five Factor Markers (i.e., significance was >0.01). Resilience also showed a number of weaker correlations with the surgency, agreeableness and emotional stability subscales from the International Personality Item Pool Big-Five Factor Markers (i.e., significance was >0.05). Resilience did not show correlations with age, length of experience in the police force, having undercover/plainclothes experience or the Deception Inventory. The Correlations Matrix can be found in Appendix AD.

Further analyses of interactions between resilience and other measures on entire sample.

The original analyses had a comparison group (officers without undercover/plainclothes experience) considerably smaller than the group with undercover/plainclothes experience. Due to that and the fact that the average of all participants in the study had at least moderate levels of resilience, the data were subsequently

divided between higher and moderate/lower scores based on the Resilience Scale manual norms to allow further analyses. Refer to Table 12 for an overview of the demographic information, split between police officers with high and moderate/low levels of resilience, and Table 13 for the composition of each group, including UCO/Non-UCO and High vs Moderate/Low Resilience.

Table 12

Summary of Demographic Data (Quantitative Study) Split Between High and Moderate/Low Scores in Resilience

Demographic Data		High RS Score			Moderate/Low RS Score			Total
		Frequency	N	Mean Std. Deviation	Frequency	N	Mean Std. Deviation	
Gender	Male	40			55			
	Female	5			7			
Total			45			62		107
Age	Age Range	33-52		41.36 4.16	30-54		41.70 5.40	
	Total		45			62		107
Disability	Yes	0			1			
	No	45			61			
Total			45			62		107
Marital Status	Single	7			11			
	Married	30			42			
	Divorced	8			8			
	Widower	0			1			
Total			45			62		107
Experience in Police Force	Years Range	9-28		19.18 4.26	5-36		19.21 6.18	
	Total		45			62		107
Experience as UCO	Years Range	2-26		11.30 6.49	2-27		9.26 5.35	
	Total		23			35		58

Table 13

Composition of Each Group

		Resilience Group		
		High	Moderate/Low	Total
Experience as UCO	Yes	35	47	82
	No	10	15	25
Total		45	62	107

Following this, examinations were made to determine whether those with high resilience, within the sample as a whole, would show elevations on the cognitive flexibility and the personality measures. T-tests based on these analyses (i.e., high vs moderate/low scores in resilience against other measures) yielded statistically significant differences on the alternatives subscale of the Cognitive Flexibility Inventory ($t(93) = -2.934, p = .004$), as well as on the agreeableness ($t(98) = -2.406, p = .018$), conscientiousness ($t(98) = -3.471, p = .001$), emotional stability ($t(98) = -2.047, p = .043$), and intellect ($t(98) = -2.556, p = .012$) subscales of the International Personality Item Pool Big-Five Factor Markers. Participants with higher resilience scores also achieved higher scores on the above subscales when compared to participants with moderate/lower resilience scores.

Qualitative Study.

Thematic Analysis of all the interviews revealed seven main themes: Secrecy; Work Satisfaction; Undercover Tactics; Stress; Deception; Support; and Things to Improve (see Figure 9). These themes were identified following the steps described in the Treatment of Data section. Quotes that support the themes described can be found in Appendix AE.

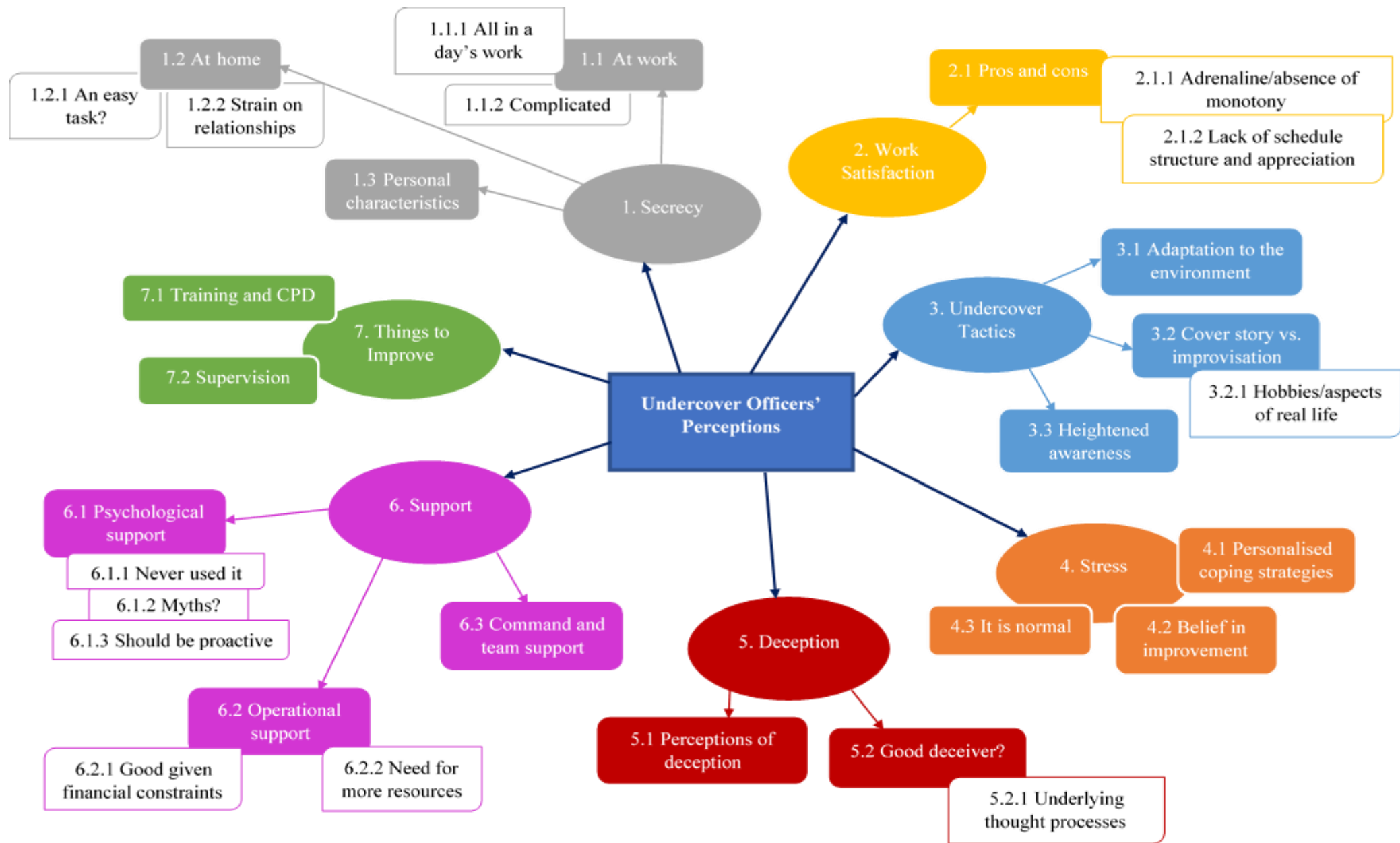


Figure 9. Thematic Map

Theme 1: Secrecy.

All participants reported the need to maintain secrets in their line of work. They discussed the vital importance of this to preserve the integrity of the operations and guarantee the success of their tasks. Secrecy was described as a necessity across the board, that is, at work with colleagues, suspects, witnesses and any other intervening person, as well as at home with family, friends and neighbours. The easiness and difficulties in maintaining secrets were discussed and the following sub-themes emerged:

1.1. At work.

1.1.1. The vast majority of participants considered maintaining secrecy at work as ‘all in a day’s work’. They explained how it was a natural process, something that was normal and, therefore, did not cause any major issues. This was the case even when colleagues from other departments tried to obtain information that they could not share: “As a rule, most of the activities carried out are kept secret. It’s my job... it’s easy.” (P017, p. 2). “Quietly, it’s my job, I do it daily without any stress. I can stand beside a colleague and have him/her under surveillance, for example.” (P006, p. 2).

Even in the Court context, some participants reported that the Judges would protect their work by not allowing lawyers to ask questions that could expose their cover. For example, “... most Judges would see that we could not reveal certain things... defended us and immediately prohibited the question from lawyers.” (P012, p. 2).

Participants highlighted the importance of secrecy within their role, i.e., that secrecy is key to their own safety and the success of their mission: “...you have to keep this secret, this confidentiality of things because the curiosity of others can sometimes ruin a job...” (P003, p. 2). Another participant commented: “...we do not tell everything to everyone, even at home we do not have the habit of coming home and telling everything we saw on the street, or

everything we did at work... our safety comes first.” (P013, p. 2). In addition, a participant commented that the secrecy may have a personal cost but it is still essential: “It is actually the nature of the work, regardless of the costs that this may have on a personal level.” (P019, p. 2).

1.1.2. A small number of participants reported that maintaining secrecy, even within a work context, could be a complicated and uneasy task: “It's not easy... we end up distrusting everything and everyone, always. It is a safeguard of criminal investigation because unfortunately we do not really know the people around us.” (P020, p. 2).

1.2. At home.

1.2.1. Participants agreed again that it was important to maintain a certain level of secrecy within the home context (e.g., with family and friends): “...we have to separate friendships and our job... It is a crime for us to disclose information that is in the secret of justice.” (P003, p. 3).

...a person being married or having a life in common... you have to keep enough information so that the person understands what it is that we do. However, what we are doing specifically at that time should be that the less they know, the better. For their own good... (P002, p. 2).

Participants' views differed on whether this was considered an easy task. Some participants discussed that maintaining secrecy occurred constantly and was a natural part of the job: “It is a normal adaptation for those who work in this type of service. You have to lie. We lie to outsiders, we lie to insiders. It is part of the professional performance.” (P014, p. 3). While others stated that it was complicated and they felt compelled to deceive their loved

ones at times: “If we are here and we continue here, we know that everything else will always be a bit more complicated, but also, if we are here it is because we know how to manage complicated.” (P013, p. 3); “...some pressure... to know how to manage a lie and unavailability to have a drink with friends or go out with the girlfriend. I have to resort to lies in order to manage this situation.” (P020, p. 2).

Just over half the sample reported that their family and friends are so aware of the importance of secrecy within their lines of work, that they do not even attempt to ask questions:

...is a very natural process, so it also turned out to be a process of acculturation of those who are closer to me, since from the beginning I always had to keep some secrecy about my work, the people close to me also came to realise this and also took preventive measures to not even put me in a position where I would have to lie to them... (P015, p. 2).

1.2.2. For some participants the task of keeping secrets from their loved ones was considered extremely complicated which prompted participants to discuss the strain this caused on their relationships:

It's always complicated, especially in affective relationships, because ‘who are you with?’, ‘what are you doing?’, And we have to respond: ‘I’ll explain later,’ and the ‘I’ll explain later’ never comes. The people around us know the bare minimum of what we do. Never know the reality... and people either accept it, or not... (P013, p. 2).

[generated tensions] Yes, several times, that's why my marital status is divorced. For being away from home a lot, for not having schedules... for not being able to tell where I'm going or what I'm doing... I try to give some information, but it is abstract... (P019, p. 3).

1.3. Personal characteristics.

As part of the secrecy theme, a sub-theme emerged regarding the personal characteristics that participants perceived they needed to possess in order to maintain secrecy from others efficiently. Most participants considered that being discreet and reserved were helpful characteristics for the tasks required within the job: "I consider myself discreet. It's essential; to be as discreet as possible, both professionally and personally." (P002, p. 3). "I am a little closed, I'm a little guarded shall we say... I like to go very unnoticed." (P005, p. 3). A participant highlighted the importance of personalities adequate for the job: "...personalities that tend to be more reserved, help. Aspects of your life end up absorbing more naturally this whole process of acculturation, of reserve and secrecy that is associated with our mission..." (P015, p. 3). Some participants also mentioned that specific characteristics can either be learnt over time or be intrinsic to the person: "We become more aware, we become more sensible." (P011, p. 3). "...some [people] already have these characteristics..." (P004, p. 3).

Theme 2: Work satisfaction.

When discussing the experience of being in undercover operations, carrying out surveillances, and searching for information, all participants reported that they enjoy their job. Through an exploration of the facets of the work that they do and how gratifying they find it, one sub-theme emerged within this theme with polarised views: pros and cons.

2.1. Pros and cons.

2.1.1. The main pros highlighted by the participants, in reference to their work satisfaction, had to do with the thrill of undercover work. Participants explained that the absence of monotony and adrenaline created by what they are tasked to do, were factors that contributed towards their satisfaction: “Love it. I really like what I do... it’s always different.” (P001, p. 3). “My job is excellent, it’s the best job in the world. Adrenaline is addictive.” (P013, p. 4).

A few participants also mentioned the relevance of undercover operations towards the overall success of criminal investigations, as well as the opportunity to contribute towards a safer society: “...it is a necessary work and it can boost the investigation activity by increasing its quality... it is one of the decisive factors that can dictate the success of an investigation.” (P015, p. 4). “...very interesting... it is always good to try to do something to improve society, to make our contribution.” (P010, p. 3).

2.1.2. Approximately half of the sample also mentioned some of the negative aspects inherent to this line of investigation. Apart from the physical and psychological demands of the job (which are discussed further in subsequent themes), participants emphasised the negative impact that the lack of a structured schedule, i.e., 9 to 5pm, can have on their personal life. For example, “The only thing that complicates it has to do with schedules, because it takes up a lot of our personal time.” (P004, p. 3). “Our job always works according to the target and due to this there is a great need for adaptation, which means that sometimes it is difficult to juggle the professional and personal life.” (P016, p. 5).

Furthermore, a small number of participants highlighted their feelings over a lack of appreciation regarding their work. They explained that whilst it is essential to their work that the public are unaware of their existence, they sometimes feel that even within the police

force, their work is not acknowledged: "...we are invisible, we are all of that... but then there is another part, we are not recognised for the work that we have done... we fall a bit into oblivion." (P019, p. 9).

Theme 3: Undercover tactics.

Through discussions regarding the strategies that undercover officers employed to maintain their cover and deceive others in their operations, the theme of undercover tactics emerged. Interestingly, while there were tactics where all participants agreed, there were also very different points of view regarding some techniques applied during the operations. Three sub-themes emerged: the need for a thorough adaptation to the environment where the operation takes place; the use of a cover story versus the use of improvisation within undercover operations; and a heightened or reduced awareness regarding the possibility of being "caught out" during the operations.

3.1. Adaptation to the environment.

All participants mentioned the need to adapt to the environment in which the investigation is taking place in order to maintain their cover and conduct their tasks effectively:

It depends on the situation, it depends on the location. Our cover story can vary and our way of being depends on where we are and the person concerned... we have to adapt to the situation and to the person [target]. (P001, p. 4).

While the preferred methodologies involved minimum direct contact with the individuals under investigation, participants recognised that sometimes it is impossible to avoid contact with the targets: "...we always try that the person who is watching us does not

notice that we are not from there... our job is to be ghosts. We do not exist.” (P013, p. 5).

“...if I need to be something in a certain place, very well, but before I can be anything, I have to be the invisible person that is somewhere and does not bother anyone...” (P023, p. 13).

When contact is inevitable, they mentioned techniques including planning for possible interactions through a study of the environment: “...better to spend [in a certain place] fifteen days or a month before... Reconnaissance, think, work hard.” (P023, p. 13). “There is always a prior planning before going to the field. A site and target study...” (P016, p. 7). Acting naturally was also mentioned by most participants, with a couple of participants commenting that going into operations with agents from both genders facilitates the task of blending in: “In Rome do as the Romans do.” (P002, p. 6). “...acting naturally is the way to give credibility to the disguise.” (P003, p. 5). “...in reality it always goes more unnoticed when there is a man and a woman [in the operation].” (P003, p. 4). “...it gives us something more of being invisible, acting like a couple...” (P022, p. 5). Changing the way they dress and/or speak, including the languages/accents used, was also highlighted by the majority of participants: “The way of speaking also changes. The vocabulary must be different from one area to another.” (P007, p. 5). “...adaptation to the environment, way to dress, way to speak, posture, all of this...” (P009, p. 4). “I often change my beard, hair and clothing... We always find strategies and refuges. Just wear a double-sided coat, a backpack, a hat... adapt to the situation.” (P011, p. 6). “...adapt... the way of speaking, the way of being, speak in English, have a different pronunciation...” (P023, p. 20).

A participant summarised the adaptation to the environment: “...it is the art of being forgotten, often when we are in operational action, we need to suppress some features of our individuality to go as unnoticed as possible in a certain environment.” (P015, p. 4).

Participants also explained the key difference in two types of information gathering: “indirect

way, because the person does not know who [the agents] are, and direct information gathering, in which they know [they are] police officers and these individuals are known as informers.” (P012, p. 6).

3.2. Cover story versus improvisation.

A few divergent opinions emerged during discussions regarding the use of a cover story or improvisation in order for the agents to maintain their cover when dealing with the targets (or anyone else they might come into contact with). Some participants stated they create a cover story in preparation for the operations and do not deviate from it: “We must always have a cover story. Books say so, manuals teach us this...” (P013, p. 4). “We try, in general, not to improvise. We always try to have a predefined story because sometimes it can go wrong otherwise... improvisation can go wrong.” (P014, p. 5).

In contrast, other participants reported they always use improvisation and stated that whatever comes to their mind at the time of need, is what they will say in the event of direct contact with the targets: “We do not have a story as such... when need be, improvise.” (P008, p. 5). “Spontaneity. Spontaneous state, without any stress. And I act in a completely natural, normal and in a totally moulded way to the situation, the place, the type of people. 100% of improvisation.” (P018, p. 4).

Almost half of the sample explained that they use both methodologies, meaning that they start by preparing a cover story and make use of improvisation when needed, in order to maintain coherence within the story and also to account for unforeseen circumstances or scenarios.

...when we go to a certain place, we follow the rule of undercover operations that we must take a cover story already prepared, not to be caught out. If it is a thing of the

moment, then we use improvisation and the ability of each one to improvise. (P002, p. 4).

...when we start in this activity there must necessarily be a preparation because it is not something that comes [out] naturally, but with the field practice hours and accumulated experience, we get a different capacity for improvisation compared to when we started... in more critical situations it requires a more solid cover story, while others may possibly be resolved with some improvisation. (P015, p. 4).

3.2.1. Within the prepared cover stories and/or improvisation, the majority of participants mentioned that they use some point of truth regarding their real lives (e.g., hobbies and interests) in order to make their stories more convincing: “Yes, yes, even the themes of our day-to-day life, current issues... [in order to] not raise suspicions about what we might be doing there.” (P020, p. 4). They reported that using these real-life aspects supports their effectiveness during the cover as they master the topics they are using: “We will not use a cover story on a subject we do not master.” (P002, p. 5). In contrast, a minority of participants stated they keep everything separate (i.e., work and real-life), and just completely fabricate the topics of cover stories and improvisation: “No. My personal life is not mixed with work.” (P013, p. 5).

3.3. Heightened awareness.

When asked if they have ever been ‘caught out’ during operations, the majority of participants demonstrated a heightened awareness to this, acknowledging that it is very likely that they have been detected to some extent, at some point in their careers, because offenders use their own counter surveillance techniques and, in reality, they are not ‘invisible’:

It must have already happened for sure... Being caught out in surveillance and movement tracking is one of the easiest things to happen if we do not take proper care, or sometimes the targets are too alert. There are techniques that we ourselves use and they use which are counter surveillance techniques and this sometimes facilitates them to detect us. (P002, p. 5).

Already a number of times... it has to happen because we are not invisible. We are investigators, we do surveillance, tracking of movements, but we are not invisible and other people are not stupid, so they sometimes detect us. The best is s/he sees me and cannot figure out if I'm a police officer or not. (P006, p. 5).

It emerged that the protocol for when agents suspect they have been detected includes: exiting the surveillance and 'disappearing' from that case for a while (with a possibility of re-joining the operation at a different time); replacing staff and vehicles; and notifying the rest of the team to protect the investigation: "Therefore, in a surveillance, whether it be us or a vehicle, if we suspect that we were detected, that element jumps out." (P002, p. 6). "Yes, I left the area... The clothes change, the beard grows, put on sunglasses, already the look is totally different..." (P007, p. 4).

A minority of participants reported that, in their view, they have never been detected during operations while also recognising that, at times, agents may believe they have been detected and this is not necessarily true: "...often, we are not detected; we are left with the impression that we were detected and then we leave or make the team leave. Not to disturb

the operation...” (P014, p. 6). Agents also discussed the strain they feel regarding the possibility of detection due to the implications it may have:

...it is always the fear of jeopardising an investigation that may have been going on for months or years and everything the government has invested in the investigation... it is a situation that alone provokes in us that pressure of ‘will we put the operation at risk’? (P020, p. 5).

Theme 4: Stress.

When discussing the different aspects of this line of work, inevitably the theme of stress was debated. Though the majority of participants acknowledged that this is a stressful profession, the coping strategies described were different. Some participants described that they face the stress resultant from work as something natural, while others explored the challenges they face on a daily basis and the effect it has on them. The following sub-themes emerged:

4.1. Personalised coping strategies.

There were a number of distinctive coping strategies, both adaptive and maladaptive, as described in the literature (see chapter 1, 2 and introduction of the current chapter), that agents claimed they use in order to deal with stress and cope with the pressure of this profession. Among the personalised coping strategies, some participants reported that they practice sports or exercise: “I do sports, it's a way of dealing with stress... a way to control my emotions and keep my cool under pressure.” (P010, p. 4). Others stated they smoke cigarettes or used to do it in the past: “When I smoked, I would light a cigarette in the aftermath of the situation; not anymore.” (P004, p. 4).

Some participants reported that having a balance of colleagues who are more relaxed and others who are more 'rushed' is helpful: "It is good that one [colleague] is more fast-paced and another less hasty, consequently we balance each other." (P008, p. 5). While others mentioned that sometimes they need to retreat and be by themselves: "It has phases, it is not easy... it is exhausting, tiring and sometimes we need those moments of retreat, of pause, of disconnecting the record no matter how much you like what you do..." (P020, p. 4). A few participants also reported that their family and friends have a crucial role in keeping them calm and supporting them in releasing the pressure through spending time together and doing a number of activities: "...[to deal with it] cinema, tours, a bit of everything. I mainly try to choose to do as a family, to compensate for times when I am not there and they are affected." (P020, p. 4).

No doubt this is a very stressful job, and sometimes a person comes home and keeps thinking about things, but this is where the family and the people who live with us come in. They make us think of other things and end up having a key role in our performance within the service. (P016, p. 6).

A minority of participants stated that they feel sometimes the levels of stress get too high and it is challenging to try to manage it: "[Keep calm under pressure] Honestly no... we accumulate internally and eventually corrode ourselves internally and we do not demonstrate what we truly feel and we accumulate, accumulate, to the point at which 'the bubble will burst'..." (P020, p. 4). "I've handled it better! We do not always handle it well, whoever it is, I've had good times, I've had bad times, right now it's levelled out." (P025, p. 4).

4.2. Belief in improvement.

A minority of officers mentioned that they strongly believe they became better at dealing with stress and keeping calm under pressure due to their years of work and life experience, as well as due to learning from their experienced colleagues/superiors: "It's what I say: experience does everything; at the beginning it was complicated, then with the experience of life [improved]." (P005, p. 5). "...learning from those who are already here and who have already performed the same functions for a long time ends up giving us some skills in stress management..." (P015, p. 5).

4.3. It is normal.

Almost half of the sample described dealing with stress as a normal process and something that is inherent to this line of work: "...it is mechanised already ... I am in a position of coordination and I have to try to keep calm." (P003, p. 5). A couple of participants reported that they are unable to live without stress or adrenaline and that is one of the reasons that keeps them in the job: "I cannot live without stress... I live better with that adrenaline always present." (P006, p. 5). While some participants went as far as to say that they do not experience stress as a result of their work: "I deal with it pretty well. I think I'm completely anti-stress." (P018, p. 4). "I do not have stress. It's rare, very rare. I am a very calm person, I do not become easily nervous." (P007, p. 4).

Theme 5: Deception.

Being able to deceive others effectively was considered a core coping/detection avoidance strategy for undercover police officers, as explained in the introduction of the current chapter. Participants revealed different views about deception and examined their own efficacy in deceiving others, both on professional and personal levels, resulting in the following sub-themes:

5.1. Perceptions of deception.

Participants described different perceptions and beliefs about deception, as well as different techniques they use to appear convincing when lying. Some officers reported that, in order to appear credible, they have to believe in the information they are conveying and sometimes include points of truth: "...it must always have a bit of truth..." (P004, p. 5). "...I'll try to believe what I'm saying is true; if I convince myself, it's easier to persuade others." (P010, p. 4). "...sometimes even we believe it to be true, because we speak in a completely convincing way." (P019, p. 7). A couple of participants mentioned that they need to be firm, calm and 'appear confident', otherwise they may start to tremble and the lie falls apart: "...in any lie, it is essential to keep a firm tone of voice and keep ourselves as calm as possible. Avoid nervousness." (P002, p. 6). "...as soon as a person begins to lie, the person begins to tremble..." (P001, p. 4).

5.2. Good deceiver?

5.2.1. Underlying thought processes emerged when participants discussed their ability to deceive others. The vast majority of participants reported that they are able to deceive, explaining they are trained for that and need to have an ability to do it in order to carry out the job safely: "Maybe this job gives us a bit of 'chameleon skin'... To adapt ourselves to certain circumstances or get out of certain situations. It ends up giving us some ability to lie..." (P002, p. 7). "I do. We are a bit trained for this, for these kind of situations... It's part of our job." (P003, p. 6). "Yes, I am. For my defence, for my protection I can easily make up an excuse... I know I can be realistic in a lie." (P011, p. 6). The majority of those participants made a clear distinction between the professional and personal contexts. Lying for work purposes is seen as being for the 'greater good' and, therefore, does not carry an emotional

weight, whereas they cannot lie in a personal context because they do not see it as warranted: “If it's a person I do not know, I can lie, if it's a person I know, I cannot lie.” (P022, p. 7).

It's easy to lie. It's hard to lie at home when you love a person. It is difficult to lie to a child, it is difficult to lie to a wife, to a mother, but in terms of work, is easy. It's easy because it's part of the game... (P023, p. 22).

In contrast, a very small number of participants reported that they are unable to lie, be that in the professional context or at a personal level: “For me, lying does not work, it does not, because I'm soon 'caught out'.” (P006, p. 6). In order to bridge this gap, they stated they stick with basic day-to-day topics if they need to interact with targets: “[at work] I wander between weather or television themes, because I cannot lie.” (P021, p. 5).

Theme 6: Support.

The types of support available, or lack thereof, to assist and ease the undercover officers' job as well as their general well-being, were discussed during the interviews. Three main sub-themes and their different facets emerged: Psychological support; Operational support; Command and Team support.

6.1. Psychological support.

Psychological support generated responses which were transversal to the whole sample (e.g., in terms of accessing it), as well as diverse patterns of response in terms of current and future service provision.

6.1.1. All participants reported they have never accessed psychological support within the Force. Some reported they know of colleagues who have accessed it: “I had a colleague of mine, who recently worked here with us, that he had [support]... He went there several times,

to Psychology.” (P022, p. 9). However, the majority indicated they feel like they never needed it: “...never used, never called, never had the need...” (P005, p. 8).

A small number of participants claimed they have needed the support and have, indeed, felt slightly lost in their identity and purpose, however, the support was never offered to them: “...I went through very complicated situations and to this day there has never been anyone who said ‘let’s see that officer’.” (P008, p. 8). “Because I’ve been out on the streets for twenty years and I’m tired of chasing after ‘bad guys’. I’ve been through a lot. No one approached me [to offer support].” (P012, p. 8). Some officers reported that they were unsure about the psychologists’ functions and their usefulness within the service: “I never needed them [psychologists], so I do not know if they are useful or not, I’m not sure what their functions are.” (P010, p. 5).

6.1.2. Some myths around psychological support were brought up during the interviews. A very small minority of participants did not believe or were unsure whether psychological support exists within the police force: “I do not know. I’ve never seen Psychology...” (P021, p. 6). A small number of participants believed there is support available, but only for extreme cases (e.g., suicidal ideation) or to be used as a “last resort” (P009, p. 5). A participant stated, “There is a psychological support structure. But not for these situations. They are for extreme situations where the officer is the target of violence... their families... deaths.” (P017, p. 7).

The majority of participants were aware of the existence of some form of Psychology service, either as a Department/Clinical Centre within the Command or as phone helpline that officers are able to access if they feel the need: “I know that there's some line there; some phone number...” (P005, p. 8). “Yes, the Force has a Psychology service, which is in operation, so any officer who needs it can access the Psychology services.” (P015, p. 7). Of

these participants, a small number believed the service available is useful and effective: “I believe that it [the Psychology service] has preventive measures in certain types of phenomena linked to the psychology of the officers.” (P015, p. 7). A small minority of participants reported they do not believe anyone has been truly and meaningfully supported by the service: “...I did not see anyone being helped here in a truly meaningful way. And there are many cases that need a lot of help. Lots of help...” (P023, p. 26). The remaining participants did not provide an opinion regarding the perceived efficacy or their level of trust in the service.

6.1.3. Almost half of the sample highlighted the issue of not having a Psychology service aimed at these teams: “But so, there is nothing aimed at us [directly].” (P002, p. 7). Some participants claimed the service should be more proactive in the sense of being offered/volunteered on a regular basis with the psychologists visiting the teams, instead of expecting agents to go to their offices to see them: “...there is psychological support available if we set out to find it. Now, to be here and someone [psychologist] come to see us, no. [Would it be welcomed?] Yes, it would be. It might be used [then].” (P014, p. 7). They pointed out that their well-being and mental health is of paramount importance for the success of their work, which in turn reflects positively on the police force: “[improve] psychological support, be more present and proactive in all units... because my well-being will be reflected in the results of the Institution.” (P020, p. 6).

A small number of participants drew attention to reasons that may make officers not actively seek out psychological support. These reasons included a fear of stigmatisation whereby officers may refrain from seeking support because of the negative consequences they fear that may have on their reputation (due to being a minority who seeks help), as well as the issue with the fact that people who really need support, often do not ask for it: “Usually

suicide is spoken of in the security forces but it is the same as suicide outside [of the security forces]. No one ever asks for help before [committing] suicide. That is the problem.” (P013, p. 7).

Yes, I have an idea that if I want to look [for support], yes, the Institution has and makes it available... however, those who are not completely 'burnt out' will not look [for support], because they will look for problems. I know of cases where they went to get help and automatically the life inside changed for those people. Clearly. The information is transferred. 'That guy is burnt, watch out for that guy'. (P023, p. 25).

6.2. Operational support.

When asked about available support, the majority of participants immediately listed the operational/material support available (e.g., vehicles, technological means such as cameras, surveillance houses, human resources). In spite of having different views, there was quite a lot of overlap in the opinions expressed.

6.2.1. More than half of the sample believed that, given the financial constraints and the economic situation that the country lives, the current provision of operational support is good: “...within the normal parameters of the available funding, we have support.” (P011, p. 7). “...they do not give us more because they cannot.” (P022, p. 8). Some members of specific teams acknowledged they are better equipped than their counterparts in the national average: “In terms of material [support] we have it... we are very well equipped.” (P002, p. 7).

6.2.2. A great number of participants, including some that believed the current provision is good, reiterated that more support at all levels (i.e., technological, vehicles, human resources) is always needed and would be highly beneficial for the general efficacy of

the teams: "...and operational support is limited – it is what it is. We can only work with what we have and nothing else. We should have more means, more staff, more cars." (P007, p. 5). A minority of participants reflected that the support available is below the expectation and more investment should be made with regards to this: "The logistical support that has been given is far behind [the expectation]." (P009, p. 5). "There is no investment... there is no support and it is very difficult to evolve." (P023, p. 23).

6.3. Command and team support.

Participants discussed the support provided by their direct team and the remaining hierarchical chain. All participants reported the fundamental importance of the trust they place in their team mates, both for the success of the operations and for their well-being:

[trust them] Yes, no doubt, in this area [of work] mainly because certain actions have a very high degree of danger and if we do not constantly trust who is by our side, it does not go well because we will not be focused on what we are doing. (P016, p. 8)

Most participants added that their teams are their only form of support while conducting the tasks and reflected on their importance in terms of processing traumatic experiences faced at work: "...support? Honestly, it's the team colleagues I have on my side, the team, nothing more." (P008, p. 7). "[discuss stress that comes up at work] Just between us... Inside the team. These are very confidential and very important details... We have a small nucleus and we have to comfort one another." (P011, p. 7). Similarly, just over half the sample mentioned their direct managers and claimed to feel 100% supported by them: "...the manager is very good both professionally and as a person." (P010, p. 5).

In terms of Command/Upper Management, nearly half of the sample discussed that level of support, demonstrating mixed feelings and opinions. Some participants described feeling fully supported by the entire chain of command: “From our commander down to our manager. They care.” (P013, p. 8). Others reported feeling like the higher echelons do not have a complete understanding and sensitivity regarding the work conducted within criminal investigation in general, and these teams in particular: “...the command and the chain up have no sensitivity of what this is: the investigation, tracking movements and doing surveillances... [they] have no idea and sometimes do not understand our needs.” (P020, p. 6). “Maybe sometimes at the managerial level, they do not understand our type of service. The upper management, I believe they think that sometimes we come into work almost to play...” (P004, p. 6). It was suggested by some participants, that commanders and managers from higher ranks should spend some time in the field or talking to these officers in order to gain a greater understanding of their tasks and challenges: “It would be good for them to spend time in the field... the upper management...” (P005, p. 9). “[They should] talk to us, those who are here, every day, doing fieldwork.” (P012, p. 8).

Theme 7: Things to improve.

Aspects that could be improved, both at an individual level and within the institution, were discussed throughout the interviews and are reflected across the different themes within these results’ section. Despite the overlap, the final question asked participants for specific things they thought could be improved to promote their well-being and enhance their effectiveness within the role. Two main sub-themes emerged: training/continuing professional development (CPD), and supervision.

7.1.1. While all participants reported believing that training is crucial, a small minority felt the current provision of training is enough and appropriate, noting that it has increased

over time: “I think that the level of training that exists is enough, despite the fact that, admittedly, it is often late.” (P009, p. 6). “Now it is a little better, there are more courses...” (P008, p. 8). However, the vast majority of participants emphasised the need for more training and pointed out areas where, they feel, it is lacking severely: “...we should have more current training... a permanent teaching team.” (P020, p. 7).

...there are colleagues who have not attended a training or a refresher course/CPD in fifteen years. The ‘update’ turns out to be a bit done on the field with the situations that come up and with which we learn every day. The police force has been somewhat unconcerned about training. (P003, p. 7).

Participants highlighted areas in which improvements could be made, such as new and refresher courses, CPD, and updates, in order to keep up with the reality of new technologies, defensive driving, laws and criminal trends: “...there should be more update of contents, more specific courses for specific areas.” (P025, p. 7). “There are courses abroad that could be given to all the members who work here.” (P011, p. 8). “In terms of technology nobody teaches us; we are self-taught.” (P007, p. 6). “We ride a lot by car and we do many miles, always at high speed... we could do with having more training.” (P004, p. 7).

...we need refresher courses/CPD... because CPD is always good; in a course of investigation there is always a class with a prosecutor, with a lawyer, with a jurist... Especially in terms of the Law, it is always necessary. Laws are always changing. (P013, p. 8).

...in the training of tracking movements and surveillances, I think that it's a lot [to grasp] in a limited period of time and the practice side of it is very brief; I think they should give more time; maybe the practice should be twice as long for the staff to [have the opportunity to] practice and have a sense of what to do or not to do. (P010, p. 6).

7.1.2. Most participants also agreed that supervision, in the true sense of supporting and guiding people, is important. However, the current arrangements of supervision generated mixed opinions. Just under half of the sample described their current supervision as adequate and balanced:

...I think it's balanced. In this type of service there is never a lot of pressure from the managers. They make us feel at ease to avoid stress. We have to justify the service and give the information to higher ranks... things always go well. (P011, p. 8).

A very small minority claimed there should be no supervision because the higher ranks, who provide it, are not entirely clear on the undercover officers' roles and, therefore, are hindering their work more than supporting it: "No. Many of them only hinder, it's because they have no sensitivity for investigation, nor do they want to have. So sometimes it's better not to have it." (P007, p. 6). Conversely, a third of the participants stated that more and better supervision should be in place and could only improve their work, making the officers feel more confident within their roles: "There is supervision, but it exists in a perspective of repression, not in a perspective of support... maybe they care more about repressing instead of guiding the officer into the right track." (P020, p. 7). "It would only have benefits. ... more

supervision, more education, more updates...” (P005, p. 10). The remaining participants did not express an opinion regarding this.

Discussion

Previous studies (e.g., Kowalczyk & Sharps, 2017; Love et al., 2008) have highlighted the need to conduct more research with undercover officers, not only due to their increased importance within law enforcement and society, but also to better understand how officers cope with the physiological and psychological impact this special assignment has on them. This study aimed, therefore, to explore the factors related to resilience, coping and detection avoidance strategies that enable police officers to be effective undercover. This research used a convergent mixed methods design, applying both quantitative and qualitative methodologies. Participants, working in criminal investigation, were recruited from a Portuguese Police Force. They were required to complete a battery of psychometric tests through an online survey measuring resilience, cognitive flexibility, personality traits and perceptions of deception. In addition to this, semi-structured interviews were conducted with police officers with prior undercover/plainclothes experience to explore the officers’ perceptions of their coping strategies, abilities to meet their job demands and to maintain secrecy/deception.

It was challenging to relate the findings to previous research pertaining only to undercover police officers due to the scant literature regarding this particular area of policing. As such, results were discussed in parallel with the available literature on police officers in general and, when possible, undercover operatives in particular.

Quantitative Study.

Results of the quantitative study indicate that Hypothesis 1 and 2 were not confirmed as there were no statistically significant differences between officers with previous undercover/plainclothes experience and officers without that type of experience in the resilience and cognitive flexibility measures. This may have been influenced by the fact that the comparison group was considerably smaller than the other group; an issue which was addressed in further analyses of the data. It is worth noting, however, that on average the participants of this study demonstrated at least moderate levels of resilience and cognitive flexibility when facing stressful situations.

Hypothesis 3 was partially confirmed as officers with previous undercover/plainclothes experience scored higher on the surgency subscale of the International Personality Item Pool Big-Five Factor Markers than did their colleagues without this type of experience. However, there were no statistically significant differences on the emotional stability subscale.

Hypothesis 4 was partially confirmed and the results reported which do not confirm the hypothesis, are inconsistent with the results achieved during the interviews in the qualitative component of the study. During the interviews, a vast majority of officers with undercover/plainclothes experience reported they perceive they have an effective ability to deceive others within the professional context. They made a clear distinction between their abilities within the professional context as opposed to the personal. It would be reasonable to assume that because the Deception Inventory did not specify that the questions were mostly applicable to their abilities within the professional context, the officers' responses are not an accurate reflection of their abilities on a work setting. Instead, they might have answered the questionnaire thinking more generally about how they view themselves (i.e., including the

personal context). There is also always a risk that participants may provide socially desirable answers when discussing sensitive issues such as deception. This has been extensively described in the literature (e.g., Gershon et al., 2009) and is addressed as a limitation in this study.

Relationships between the different measures were conducted using correlation analysis. Resilience showed moderate correlations with the Cognitive Flexibility Inventory, as well as with two subscales of the International Personality Item Pool Big-Five Factor Markers (i.e., conscientiousness and intellect). It showed a number of weaker correlations with the remaining subscales of the measure (i.e., surgency, agreeableness and emotional stability). Resilience did not, however, show correlations with age, length of experience in the police force, having undercover/plainclothes experience or the Deception Inventory. The lack of correlations with age and length of experience in the police force appears to suggest, in this study, that resilience has a strong intrinsic component. This appears to be supported by another recent study (van der Meulen, van Veldhoven, & van der Velden, 2019) which investigated psychological resilience in police officers, and found resilience to be predominantly stable across a 9-month period. However, this does not automatically mean that resilience is not affected by an extrinsic component as well (i.e., environmental factors). Taking into account the most recent view of resilience as a dynamic process (see Chapters 1 and 2 for further detail), personal and environmental resources interact and influence the individuals' responses to adversity, which suggests that resilience can fluctuate to some extent and can, therefore, be improved (Helmreich et al., 2017).

Finally, in order to overcome the issue of the smaller comparison group, the data were divided into higher and moderate/lower scores based on the Resilience Scale manual norms and further analyses were conducted. Participants with higher resilience scores also achieved

higher scores on the alternatives subscale of the Cognitive Flexibility Inventory, as well as on the agreeableness, conscientiousness, emotional stability and intellect subscales of the International Personality Item Pool Big-Five Factor Markers, when compared to participants with moderate/lower resilience scores.

Qualitative Study.

Results of the qualitative study conducted with police officers with previous undercover/plainclothes experience identified seven overarching themes which addressed the research questions: ‘*Secrecy*’; ‘*Work Satisfaction*’; ‘*Undercover Tactics*’; ‘*Stress*’; ‘*Deception*’; ‘*Support*’ and ‘*Things to Improve*’. Participants discussed the need to maintain secrecy both in the professional and personal context, at all times, in order to carry out their work safely. While some viewed this as natural and did not describe any trouble in doing so, others expressed difficulties with these strict rules. Literature has provided support to the idea that the level of secrecy required of police officers in general and undercover officers in particular, may lead them to experience high levels of stress. Farkas (1986) had already described the strain on family and social relationships as one of the main stressors experienced by undercover agents, in part due to not being able to talk to anyone about their assignment. Twenty years later, in a study with retired police officers it emerged that resilience could be destabilised because the need to maintain work-related matters secret from friends and family could lead to the social isolation of the officers (Pole, Kulkarni, Bernstein, & Kaufmann, 2006). Kowalczyk and Sharps (2017) in their review, also agreed that the preclusion imposed on undercover officers from discussing their experiences with anyone outside of their operational context, could lead them to isolation as well as self-censorship.

The second main theme to emerge was work satisfaction. All participants reported they enjoy their work, citing the thrill and adrenaline associated with it as crucial factors, as

well as the possibility of contributing to a safer society. Indeed, it has been described in the literature that police officers who perform in undercover roles tend to have sensation-seeking personality styles. Having these personality styles is not only seen as a strength, but also as one of the reasons why they are so effective in this type of work (Miller, 2006). Participants mentioned that some of the drawbacks associated with this type of work relate to a lack of schedule structure and the impact this has on their personal lives. As highlighted in Chapter 1, research dating back to the early 90's had already pointed out that shift work, excessive overtime, and heavy workload were ranked highly amongst the stressors that police officers faced (Brown & Campbell, 1990; Violanti & Aron, 1994). Similarly to the issue of secrecy described above, Yun et al. (2013) highlighted that these stressors could adversely impact the police officers' roles within their families, predicting more stress and burnout.

The third theme presented the undercover tactics the participants identified using during the operations. All participants agreed that there is a need for adaptation to the environment where the operation is taking place in order to be able to maintain their cover. This adaptation, amongst other things, requires a thorough study of the targets and can include changing the way they dress and/or speak in order to 'fit in'. There were different opinions regarding the need for a cover story for every operation and/or the use of improvisation. Finally, there were different views regarding the possibility of having had, or not, their cover blown before, as well as the awareness of the possibility of such happening in the future. Research indicates that a cover identity is a central feature in undercover operations (Miller, 2006). As mentioned in the introduction, this usually requires a series of techniques including manipulation of appearance (Jacobs, 1992), to match the targeted group. However, unlike what is portrayed in films, where agents are absolute experts in disguise, undercover operatives need to prepare themselves to sound and look as convincingly as possible for long

periods of time, during operations, because their safety depends on that (Miller, 2006). It has been established that in order to create greater chances of success, the undercover role portrayed should be as close as possible to the officer's real identity (Miller, 2006). This is in accordance with the majority of participants in this study, who mentioned that they use some point of truth within their cover. The guiding principle appears to be that the fewer the features of the role that have to be fabricated, the less opportunity there is for surprises and mistakes (Miller, 2006).

Theme four encapsulated the topic of stress. Participants acknowledged that their profession is stressful, and while some discussed the coping strategies they use to deal with stress, others reported they believe coping with stress gets easier with experience, and others stated they are not affected by stress. As previously described in Chapters 1, 2 and in the above introduction, some participants reported what has been described in the literature as 'maladaptive coping' such as isolation and smoking (Band & Sheehan, 1999; Gershon et al., 2009; Yun et al., 2013). While others reported using what has been described as 'adaptive coping' such as doing physical exercise and spending time with friends and family (Yun et al., 2013). It would be plausible to assume that the participants who mentioned they do not feel as affected by stress or are able to overcome it and remain calm under situations of pressure, are highly resilient individuals. An alternative explanation, which is common within the police culture, could be that some of these participants feared they would appear to be somewhat vulnerable or weak by admitting that they feel stressed due to their job (Beshears, 2017) and chose to avoid reporting that. Another option still, could be that they were simply unable to recognise, in themselves, symptoms of stress.

Theme five considered the need to use deception as a means of coping/detection avoidance, and saw the vast majority of participants reporting that they are able to deceive,

explaining they are ‘trained for that’. Participants reported they use techniques such as trying to believe in the information and including points of truth, for easiness in keeping up with the lies. Research suggests good liars should: choose concealing information instead of using outright lies whenever possible; be well prepared; and staying with the truth (or approximations) (Vrij, 2008; Vrij et al., 2010). Participants stated they need to be calm and avoid signs of nervousness. As mentioned in the introduction, research suggests that good liars should not attract suspicion; should not find it cognitively challenging to lie; and should not experience fear or guilt when being deceptive (Vrij, 2008). Furthermore, the degree of importance for the liar of being caught or not, can have great effects on whether s/he is caught or not. This happens because when people are most worried about getting away with their lies, is when they display more cues indicative of deception which may make it easier for others to spot them (Cajada, 2011; DePaulo & Morris, 2004). This suggests that avoiding signs of nervousness can actually be a good way of concealing the fact that they are being deceptive. Participants made a clear distinction between the professional and personal contexts, whereby lying for work purposes was seen as being for the ‘greater good’ and, therefore, it did not carry an emotional weight. According to Ekman (2001), spies feel that lying is ‘authorised’ since they are ‘doing good’ by protecting the interests of their country, which in turn reduces their negative emotions when lying; it would be plausible to assume that UCO’s feel similarly. Complementing the undercover tactics discussed in theme three, in order to submerge into a fictitious identity, UCO’s need to be able to deceive others effectively to be convincing and maintain their identities concealed (Jacobs, 1992).

Theme six explored in detail different facets of support (i.e., psychological, operational, command and team), revealing the ways in which undercover officers feel supported, and the different areas where, they feel, there is scope for improvement. In relation

to psychological support, all participants reported they have never accessed it, and although the majority stated they feel like they never needed it, a minority declared they have needed it but that the support was not offered to them. Some participants demonstrated a degree of confusion/uncertainty over whether the police force has a psychology service and what is its usefulness and, most importantly, participants feel that there is no psychological support directed specifically at these teams. It is important to note that research demonstrates police officers are frequently sceptical to seek psychological support and refrain from doing so, because that is considered stigmatising in their profession (Papazoglou & Tuttle, 2018). Therefore, there is a high probability that officers generally underreport psychological symptoms (Stuart, 2008) due to fears of being stigmatised and because they may consider that their need of psychological support is indicative of a lack of professional competency (Miller, 2004). Regarding operational support, the majority of participants expressed satisfaction with the current provision (e.g., vehicles, technological means, surveillance houses, human resources), given the financial constraints and economic situation at government level, noting, however, that more support is always beneficial. A minority of participants believed the current provision is below the expectation and highlighted the need for more investment to be made in order to increase the efficacy of their work. According to the literature, poor working conditions have been a stressor in the police forces for a long time. Due to the global financial recession, police have been pressured constantly with the task of doing “more with less” (Yun et al., 2013, p. 789), meaning they find themselves burdened with a lack of technical and human resources. Finally, when discussing command and team support, all participants explained that their team has a fundamental importance, both for the success of the operations and for their well-being, even saying that they are their only form of support. Participants also feel supported by their direct managers and some described this feeling regarding the entire

chain of command. Others, however, reported feeling that the higher echelons do not have a complete understanding and sensitivity regarding their work and suggested that commanders and managers should spend some time in the field to gain a better understanding of the type of work UCO's do. This issue does not appear to be new, as Miller (2006) also denoted that given the massive investment and the risks involved in undercover operations, it would appear strange that many UCO's believed that they lacked support and commitment from their supervisors. They also thought that the supervisors lacked sensitivity regarding the nature of undercover work (Miller, 2006). To overcome this, Band and Sheehan (1999) proposed that managers and supervisors made an effort to include UCO's in decisions concerning the operations in which they were involved.

Theme seven discussed aspects that participants believed could be improved to enhance their well-being and efficacy. All participants agreed on the importance of training and CPD for the effectiveness in their roles. Apart from a small minority who believed the current level of training is adequate, the majority considered that there is room for improvement. Amongst others, participants mentioned that basic refresher courses were needed, as well as training in new technologies, defensive driving, laws and criminal trends. Research dating back over thirty years (e.g., Farkas, 1986) indicates the lack of training, supervision and administrative support for UCO's has been noted as a problem for some time. The objective of training is to develop and perfect UCO's operational performance, through the transmission of theoretical knowledge and the practical skills needed to excel in the role (Miller, 2006). Participants also discussed how they feel about supervision. While the majority described that supervision in the sense of guiding and support is welcomed and essential, not all agreed that they are currently in receipt of this type of supervision. Some participants reported their supervision is adequate and balanced; others stated they feel the

need for better/more supervision; and others yet declared that the supervision they have is inadequate due to a lack of sensitivity and understanding of their tasks, from their supervisors, which ends up hindering their performance. Indeed, Farkas (1986) reported the agent-supervisor relationship as one of the main stressor sources that UCO's face, which is also in accordance with the views and literature explored above in theme six.

Overall, the findings of this project provide some support to the scarce literature available on this topic. Police officers working in criminal investigation, with and without undercover/plainclothes experience appear to be fairly resilient, which is seen as essential to carry out this type of work. Officers with undercover/plainclothes experience generally seem able to cope well with detection avoidance strategies such as maintaining secrecy, adapting to the environment of the target, using cover stories and improvisation, making use of deception and submerge into fictitious identities. There is always a risk, however, as discussed in other studies (e.g., Balmer et al., 2014), that officers may have underreported symptoms such as how stressed/strained they feel within their roles, as well as the need for more support, in an attempt to uphold an image of healthy psychological and physical functioning.

Unquestionably, having an appropriate selection of UCO's with a priori measurement of attributes such as resilience and personality traits, is crucial to determine these agents' psychological health and safety (Macleod, 1995), and may predict their ability to cope with specific stressors inherent to undercover work (Fyhn et al., 2016).

Strengths and Limitations of the Studies

The main strength of this project is that to the author's knowledge, this was the first of its kind to be conducted (i.e., including these specific variables, using mixed methods and with police officers with previous undercover/plainclothes experience). In addition to that, a good sample size was achieved overall, both in the quantitative and the qualitative studies,

though, admittedly, the comparison group in the quantitative study should have been larger. The good sample sizes granted a richer exploration of data and the ability to draw some conclusions. This was an achievement given the extraordinary difficulties in gaining access to participants who work in this speciality assignment and in conducting this piece of research. The project does, however, have limitations which are acknowledged below.

The quantitative study used a cross-sectional design, which has potential limitations that prevent the determination of causality between the variables. In addition, because the data were gathered at only one point in time, concurrent measurement may have affected the statistical relationship between the variables. However, the lack of studies in this topic was a reason for choosing this type of design as a starting point for identifying important protective and enabling factors that facilitate undercover police work.

Another limitation is the potential bias resulting from self-reports; a common issue in research (e.g., Gershon et al., 2009; Lipp, 2009; Yun et al., 2013). Due to the fact that officers were asked sensitive questions (e.g., relating to deception, emotions, etc.) they may have been reticent or inaccurate in some of their responses. In effect, there were considerable differences in the way officers responded to the Deception Inventory, and the answers they provided to the questions pertaining to deception during the interviews. This is always a concern with sensitive items, as respondents may wish to provide socially desirable answers. An additional potential limitation of the quantitative study was the length of the survey (i.e., 121-item questionnaire including the sociodemographic proforma). Although most officers completed the survey in 30-60 minutes, which was the expected timeframe, some officers completed in less than 30 minutes which could have resulted in careless responding. This, again, has been an issue in quantitative studies because researchers struggle with aiming to include all key variables in the surveys, whilst trying not to overwhelm the participants (Gershon et al.,

2009). Nonetheless, the anonymous nature of the study and the support from the command of the police force regarding the study might have helped in diminishing these issues, to some extent. Furthermore, the use of a mixed methods approach was one of the ways in which the researcher tried to minimise these types of issues; by combining two sources of information (i.e., quantitative and qualitative data), thereby enriching the quality of data and enhancing the scope of the research.

A further limitation with the study was regarding the fact that the invitation to participate in the study went through the command structure of the police force which, in turn, meant that the researcher was unaware of how many officers received the invitation and, therefore, could not include the percentage of eligible people who participated in the study. However, it is worth mentioning that the sample was recruited from the entire police force, which meant that a mix of officers participated in the study in terms of representing different parts of the country, different ages, different lengths of service, etc.

Finally, this project was limited and caution should be raised due to the fact that it was conducted in one single police force. This means that results may not be generalisable to all police forces as well as to different countries, taking into account the organisational and operational differences across police forces. Nevertheless, it provides an insight into protective and enabling factors in a fairly unexplored area of undercover/plainclothes policing. Moreover, the issues that officers raised in this police force are unlikely to be particularly different from the issues experienced by officers in other police forces working in similar settings.

Implications for Practice

The findings of this project suggest that factors such as resilience, use of adaptive coping strategies, as well as abilities to deal with stress and to be deceptive, are core skills to

be an effective undercover operative. In addition to that, a number of issues were identified by participants which require improvements in order to sustain this type of work and guarantee the efficacy and well-being of the agents.

Over twenty years ago, Band and Sheehan (1999) proposed that a formal certification programme was created for operatives who would meet the attributes deemed necessary to excel in challenging undercover work (see introduction of this chapter for further detail). Within this programme, minimum standards for testing, selection, training and monitoring would be specified (Band & Sheehan, 1999). According to the results of this quantitative study, during the testing phase, attributes such as resilience and personality traits should be measured, as they are intrinsic, and may predict the future agents' ability to cope with stressors which are specific to undercover work. Furthermore, in agreement with the results from this qualitative study, training is deemed as a particularly important phase of this certification, as insufficient or inadequate training can compromise the operation in many ways. It can result in mistakes being made, physical and psychological injuries of the UCO's and/or the targets, as well as legal problems in Court if the procedures did not follow the law (Miller, 2006). The work of managers was, back then and should still be nowadays, to identify and ensure that the most appropriate agents are assigned to the operations for which they are considered to be the best fit. Presumably, having the right agents working in these operations should determine, to a large degree, their success (Band & Sheehan, 1999).

In order to select officers to be a part of these certification schemes, psychological assessment and realistic role-play scenarios are seen as effective ways to screen undercover candidates. Moreover, experienced mental health professionals can play an important role during undercover investigations, particularly in deep undercover, in providing ongoing monitoring of the UCO's well-being, without compromising the operations (Band & Sheehan,

1999). Upon completion of the operation, psychological monitoring and post-operational debriefings are also beneficial for the operatives to transition back to traditional police work (Band & Sheehan, 1999). This can take place by decreasing the restrictiveness of the undercover role and increasing self-identification with uniformed officers (Kowalczyk & Sharps, 2017). It is recommended that uniformed officers also have some form of education on the role of undercover officers, to translate into the former recognising their work and being more inclusive towards the agents working in this speciality assignment, particularly during reintegration time. Providing psychoeducation to moderate expectations of UCO's about the time and effort required to fit back into society could also be of help (Kowalczyk & Sharps, 2017).

Results from the psychological support theme highlight previous research. The police culture has traditionally been unwilling to accept emotional/psychological support, going as far as seeing it as risky and interfering with the officers' reputation and job prospects (Evans, Pistrang, & Billings, 2013; Violanti et al., 2017). However, there is plenty of scientific research highlighting the benefits of psychological interventions in supporting police officers dealing with trauma and occupational stress (Papazoglou & Tuttle, 2018). In a study conducted by Evans et al. (2013) some participants experienced at least one counselling session and were then unanimous in acknowledging the benefits resulting from it. Moreover, Farkas (1986) reported that in his study, some of the undercover operatives reported psychological problems during deep undercover assignments and felt that their problems were disturbing enough to have benefited from appointments with a psychologist (Miller, 2006). These studies, along with the present qualitative study, point out the need for more psychological support to be offered in law enforcement agencies.

It is recommended that psychology services are implemented, where they do not yet exist, or at the very least more work is done in building upon existing psychology centres within the police forces. These services should work more proactively and perhaps offer compulsory sessions, as suggested in other studies (e.g., Carlan & Nored, 2008) where the promotion of counselling sessions resulted in significant stress reduction. This should be offered to all officers who are involved in speciality assignments, such as undercover operations, that generate more distress, providing them with the opportunity to discuss things should they feel the need. This way the idea that psychology support is just for extreme cases or for agents who are completely burnt out, should start to dissipate. This may also reduce the stigmatisation of officers who feel the need to seek out psychological services, but refuse to do so due to fears of how they will later be perceived within the police force. Another way to reduce this stigma is by ensuring that UCO's are aware that the sensitive and personal material discussed in the sessions will not be shared with anyone, unless there is an immediate danger to the operative or others, guaranteeing the confidence privilege between client and psychologist. This, and having professional psychologists treating officers with appreciation, respect and a sense of equality, would likely make them more comfortable in seeking psychological support when needed (Macleod, 1995; Miller, 2004, 2006; Papazoglou & Tuttle, 2018). Each police force needs to assess what is realistic within their framework and enforce policies that give their officers the confidence in confidentiality needed for them to seek support.

In relation to stress in police forces, officers who perceive their jobs as demanding, have been found to have insufficient control over their work and have low levels of social support, are usually at greater risk of experiencing job strain and psychological issues, than those with demanding jobs but great control over their work and good social support (Stuart,

2008). Some participants in this qualitative study described their work as very independent, which meant that they did not have to request permission or relay everything they do to their superiors, as long as they have good outcomes in their tasks. This, and feeling social support within the workplace (including supportive supervision), appears to be ideal for the officers to effectively reduce job strain and negative psychological impacts. It is, therefore, recommended that similar law enforcement agencies aim to give their officers a certain level of freedom to carry out their tasks, when possible, and provide them with extensive social support from teammates and managers alike, as described below.

In accordance with the views expressed in the command and team support theme, many police officers believe they can share their experiences only with their peers and direct supervisors, and these end up being their preferred sources of support (Pole et al., 2006). For most UCO's that is in fact the case, as they are not usually allowed to discuss matters of ongoing investigations outside of the nucleus of their team. It is, therefore, important to have systems in place for social support to be facilitated within the workplace, especially when it is assumed the officers are under high strain (Fyhn et al., 2016; Pole et al., 2006). Not doing so, can greatly undermine their resilience and can lead them to experience traumatic stress symptoms (Balmer et al., 2014; Pole et al., 2006). Moreover, research indicates that having these meaningful social support systems can diminish the occupational stressors felt by police officers by enhancing their coping mechanisms and shielding them from psychological injury (Balmer et al., 2014).

Taking into account the importance of resilience and coping for the effectiveness of UCO's in their assignments, law enforcement agencies should invest in training to enhance resilience and to teach healthier/adaptive coping strategies to their officers. Within the current project, participants were already considered at least moderately resilient and were able to

discuss some adaptive coping strategies, however, this is something that can always be improved upon due to the dynamic process of resilience. Advertising these types of training positively, in terms of skills to improve job performance and efficiency, instead of focusing on mental health, can reduce the potential stigma associated with enrolling in these programmes (Papazoglou & Andersen, 2014). This could be done a priori, by incorporating psychological elements in the officers basic training to become UCO's, as a type of prevention programme to create optimum functioning during the operations (Papazoglou & Andersen, 2014; Andersen, Papazoglou, Nyman, Koskelainen, & Gustafsberg, 2015), or as CPD. Findings of the study conducted by Balmer et al. (2014) suggest that in order to enhance resilience in police officers, it is also essential to develop officers' use of effective emotional coping strategies. This should be done concomitantly with the use of problem-focused coping, as well as with promotion of change within the police culture (Balmer et al., 2014). It is worth noting, however, that recommendations for the enhancement of resilience in police officers should not be done as an alternative to the need for organisations to address the structural and recurring problems that the workforce faces (Brough, Brown, & Biggs, 2016). If stress within the working environment is not dealt with appropriately by the organisations, the strategies for boosting resilience in police officers will only work for a short period of time (Brough et al., 2016). In order to improve workplace performance and the well-being of the employees, it is necessary to use a combination of person-focused strategies (e.g., training to increase professionalism) as well as organisational-focused strategies (Brough et al., 2016). This is closely associated with the recommendations listed above, in reference to the findings of this qualitative study, regarding increasing awareness of the roles, improving communication, improving psychological support, as well as support from colleagues, supervisors and managers, within police forces. The results of this project emphasise that it is key to

acknowledge law enforcement officers are first and foremost humans, and have as many needs or more for emotional support as do people working in other professions, due to the overwhelming stress they are subjected to. (A concise list of recommendations for practice can be found in Chapter 5).

Recommendations for Future Research

There appears to be a great deal more of research regarding the risk factors, such as occupational stress, burnout and suicidality amongst police officers, than there is concerning protective and enabling factors that facilitate their work. Even less research has been done on these topics concerning police officers with undercover/plainclothes experience, highlighting a literature gap which needs to be addressed in order to effectively support these agents. This study is a first step in that direction and it would be valuable to replicate it in other law enforcement agencies in Portugal as well as in other countries, including the UK, to enable drawing more conclusions, implications for practice and recommendations.

Further research is needed in order to understand the key differences between agents who, under similar stresses and strains, use adaptive coping strategies and demonstrate resilience, and agents who develop physical/psychological issues. In order to ascertain these differences, research could compare two groups of police officers, preferably those working under high strain assignments such as undercover officers, taking into account their self-reported levels of stress. One group of agents would be comprised of agents self-reporting low levels of stress and minimum physical/psychological issues and the other one would be comprised of agents reporting strain and potential issues derived from stress.

Another way forward, as previously suggested by Acquadro Maran et al. (2018), would be to make studies in this area more scientific by using clinical assessments and validated psychometric instruments to assess the actual stress levels of the agents in

comparison to their resilience levels and the coping strategies used. This could also be a way of avoiding the biases resulting from self-report measures only. More mixed methods studies are needed to obtain a narrative of successful coping and avoidance strategies used by undercover officers, to assist in the design of training and improve support systems for agents undertaking similar tasks.

Research in police forces with samples comprised of more females is also needed to be able to determine if there are differences in resilience and coping based on gender. In the current project, it was not possible to make accurate comparisons based on gender due to the fact that the number of females who participated in the studies was significantly smaller than the number of males. Whilst it is known that police forces have predominantly male employees, it is also known that increasingly more females work in law enforcement agencies, and having such small comparison groups based on the gender variable is not an accurate reflection of reality.

Finally, it is recommended that more longitudinal studies are conducted with police officers. The longitudinal investigation of resilience, coping and detection avoidance strategies as well as stress, across periods of the officers' careers, could assist in establishing causal relationships between these variables. It could corroborate or contradict the current definitions of resilience as a dynamic process, as described in Chapter 1, and it could identify more ways of strengthening protective factors. Further research with police officers, in general, and undercover operatives, in particular, is of the utmost importance in informing the trajectory of policy, procedures and practice contributing to these officers' well-being and ultimately a safer society.

CHAPTER 5

General Discussion

The aim of this thesis was to increase understanding of protective and enabling factors that facilitate police work by examining previous literature on this topic, critiquing a measure of resilience, and examining resilience, coping and detection avoidance strategies in undercover policing. This thesis was organised in five chapters.

The thesis commenced with an introductory chapter, covering stressors that are common in police forces and specific stressors which can affect undercover agents. It discussed the significant negative impacts that unmanaged stress can have in the well-being of police officers, before concluding with a discussion about the importance of coping and resilience within police forces.

Chapter 2, a systematic literature review, examined and synthesised the literature on resilience and coping in police officers. Eighteen studies were included in the final review, from different countries and with large/diversified samples. Results did not entirely support literature which suggests that police officers use mostly maladaptive coping strategies (Anshel, 2000; Jackson & Maslach, 1982). Some studies (e.g., Acquadro Maran 2014, 2015, 2018; Briones Mella & Kinkead Boutin, 2013; Galanis et al., 2019; Mushwana et al., 2019) suggested the most used strategies by their participants were the ones considered to be adaptive. The studies also confirmed the use of some maladaptive coping strategies (Acquadro Maran et al., 2014), however, these were the least used (e.g., Briones Mella & Kinkead Boutin, 2013; Galanis et al., 2019; Gershon et al., 2009; Kaur et al., 2013; Mushwana et al., 2019). There were only two studies (Morash et al., 2008; Yun et al., 2013), which did not find that coping strategies reduced/moderated the effects of stress. The latter was the only study to find that officers frequently employed destructive coping techniques. Despite the overall preference of samples for particular coping strategies, both gender and cultural differences were observed in the studies. The only study (Balmer et al., 2014) which

examined both variables (i.e., coping and resilience) found no gender differences in the overall officers' resilience, regardless of the fact they used different coping strategies. Studies investigating resilience found that police officers had generally high levels of resilience/hardiness (Fyhn et al., 2016; Violanti et al., 2014) and that this buffered the effects of stress.

Following the recommendations in Chapter 2 regarding the use of validated and recognised instruments to measure resilience and coping, Chapter 3 presented a critique of the Resilience Scale (RS; Wagnild & Young, 1993); a 25-item self-report assessment tool that measures the degree of individual resilience. Results suggest that the RS has a number of good psychometric properties, particularly in terms of internal consistency, construct validity and concurrent validity. The scale would benefit from more research on its test-retest reliability, as well as its predictive validity. A number of limitations within the scale were recognised over the years, particularly in terms of potential bias due to all the items being worded positively and keyed in the same direction. Nonetheless, despite the inexistence, according to some authors, of a current *gold standard* measure of resilience, one of the most accepted and well-established measures is the RS (Dias et al., 2016).

The recommendations made in Chapters 2 and 3 regarding the need for more research on resilience, using the Resilience Scale, across different specialisms in the police forces, resulted in the research project presented in Chapter 4. Using a convergent mixed methods design, the project examined resilience, coping and detection avoidance strategies used by police officers with and without undercover/plainclothes experience. Results of the quantitative study did not confirm statistically significant differences between officers with and without undercover/plainclothes experience in resilience, cognitive flexibility and emotional stability. There were, however, statistically significant differences in surgency.

Fewer officers with undercover/plainclothes experience reported an ability to deceive than expected. Further analyses were conducted comparing resilience (high vs low across the whole sample) to the other measures, and statistically significant differences were found. Participants with higher resilience scores also achieved higher scores on the alternatives subscale of the CFI, as well as on the agreeableness, conscientiousness, emotional stability and intellect subscales of the IPIP Big-Five Factor Markers. Results of the qualitative study identified seven themes which addressed the research questions: '*Secrecy*'; '*Work Satisfaction*'; '*Undercover Tactics*'; '*Stress*'; '*Deception*'; '*Support*' and '*Things to Improve*'. Officers with undercover/plainclothes experience generally seemed able to cope well with detection avoidance strategies such as maintaining secrecy, adapting to the environment of the target, using cover stories and improvisation, making use of deception and submerge into fictitious identities. Participants of both studies appeared to be fairly resilient, even though they could benefit from more support at different levels.

Strengths and Limitations of the Thesis

The conclusions drawn in this thesis are only tentative and it is important to consider the strengths and limitations of each chapter. The main strength of the systematic literature review is that of originality, in that there appears to be no other systematic review exploring resilience and coping in police officers. Moreover, due to the many different tools that researchers used to measure these attributes, it is useful to have a synthesis of existing high-quality data on this topic.

The main limitations of the systematic review relate to the fact that studies in non-English, dissertations/theses/editorials, and articles that could not be accessed in full-text, were excluded. This limits the scope of the review and is likely to have, unintentionally, biased the results. However, these decisions were made based on time and financial

constraints. Furthermore, excluding the studies measuring psychopathology, represents a limitation to the generalisation of the results concerning more severe aspects of stress. The same limitation applies to excluding studies involving any other profession. Finally, the fact that none of the studies included were conducted in the UK might prevent generalisations to be made to the UK police population. For detail on the methodological limitations of the studies reviewed within the systematic literature review, please refer to Chapter 2.

The main strength of the research project is that, to the author's knowledge, this was the first of its kind to be conducted (i.e., including these specific variables, using mixed methods and with police officers with previous undercover/plainclothes experience). In addition, a good sample size was achieved overall, both in the quantitative and the qualitative studies, though, admittedly, the comparison group in the quantitative study should have been larger.

The main limitations of the project are also worth noting. The quantitative study used a cross-sectional design which has potential limitations that prevent the determination of causality between the variables. Moreover, data were gathered at only one point in time, which meant that concurrent measurement could have affected the statistical relationship between the variables. The percentage of eligible people who participated in the study was impossible to include due to the fact that the invitation to participate in the study went through the command structure of the police force, therefore, the researcher did not have access to this information. An additional limitation, which is common to this type of studies, is the bias resulting from self-reports. There is always a concern with sensitive items in self-reports, as respondents may wish to provide socially desirable answers. Nonetheless, the anonymous nature of the study and the support from the command of the police force regarding the study might have helped in diminishing these issues, to some extent. Furthermore, the use of a

mixed methods approach was one of the ways in which the researcher tried to minimise these types of issues. Finally, this project was limited and caution should be raised due to the fact that it was conducted in one single police force. This means that results may not be generalisable to all police forces as well as to different countries, taking into account the organisational and operational differences across police forces.

Implications for Practice

Based on the findings from this thesis, the following recommendations for practice are being made:

- Psychological assessment and realistic role-play scenarios should be used to screen undercover candidates, measuring attributes such as resilience and personality traits a priori, with the use of reliable psychometric instruments. Ideally, the measures used should be adapted for use with a police respondent population. As demonstrated in Chapter 4, UCO's share many characteristics with uniformed police officers, so a validated measure used generally with police officers should be equally reliable with UCO's. In the event of intending to measure attributes or abilities which are more specific to UCO's, such as deception, a measure tailored for them, such as the Deception Inventory, could also be used. When such measures are not available, a *gold standard* proprietary test should be the aim.
- Extensive training (e.g., refresher courses, new technologies, defensive driving, laws, criminal trends, etc.) and CPD should be provided to officers, as part of their continued certification for undercover operations.
- Psychology services should be implemented, where they do not yet exist, or at the very least more work should be done in building upon existing psychology centres within the police forces. These services should work proactively and perhaps offer

compulsory sessions to all officers who are involved in speciality assignments, such as undercover operations, that generate more distress, providing them with the opportunity to discuss things should they feel the need. Each police force needs to assess what is realistic within their framework and enforce policies that give their officers the confidence in confidentiality needed for them to seek support.

- Mental health professionals, particularly in deep undercover operations, should provide ongoing monitoring of the UCO's well-being. It is also beneficial for their transition back to traditional police work to carry out psychological monitoring and post-operational debriefings, explaining the time and effort required to fit back into society upon completion of the operation.
- Uniformed officers should have some form of education on the role of undercover officers, to translate into the former recognising their work and being more inclusive towards the agents working in this speciality assignment, particularly during reintegration time.
- Law enforcement agencies should invest in interventions which aim to enhance officer's resilience, as well as in training to teach them adaptive coping strategies. Awareness training on the negative impact of maladaptive coping strategies would also be recommended as a countermeasure. An intervention to enhance resilience should be adapted to police personnel whenever possible, as although different professions may experience similar daily stressors, they vary in their stress exposure. High-risk professions, such as the police or the military, may require more resilience factors to overcome adversities, and, therefore, their interventions may need to tap into more psychosocial resilience factors than would a lower-risk profession (Helmreich et al., 2017).

- Law enforcement agencies should aim to give their officers a certain level of freedom to carry out their tasks, when possible, and provide them with extensive support systems from teammates and managers alike, including supportive supervision, contributing to minimise the impact of work stress and improving their well-being.

Recommendations for Future Research

Findings from Chapters 2 and 4 of this thesis, indicate a gap in the literature concerning protective and enabling factors that facilitate police work, particularly in speciality assignments (e.g., undercover). This study was a step in that direction and it would be valuable to replicate it to other law enforcement agencies, both in Portugal and abroad.

It has been recommended across all chapters of this thesis to conduct more longitudinal studies investigating the coping strategies used by police officers across their career, as well as their levels of resilience. Within this future research it is recommended that the occupational culture is explored in more depth, as this directly affects the resilience of individuals. Exploring these factors while accounting for more variables that shape the responses of police officers to stress, such as the occupational culture, would likely allow a better understanding of how coping strategies and resilience change in response to time and career factors. It could also identify more ways of strengthening protective factors to sustain this type of work, thereby ameliorating workplace stress.

Future empirical research should also examine other occupational groups, such as the military, as their job demands and experiences can yield important insights which may be comparable to those of the police. Examining their resilience levels and their use of coping strategies could support in building a better evidence-base on these topics, and inform other high-stress professions.

Chapters 2 and 4 recommend that future research examines the key differences between agents who, under similar stresses and strains, use adaptive coping strategies and demonstrate resilience, and agents who develop physical/psychological issues. Researchers should also try to ensure that samples are comprised of more females working in police forces, as currently they appear to be underrepresented, resulting in inaccurate reflections of reality due to small comparison groups based on the gender variable.

Finally, future research should aim to use more clinical assessments and validated psychometric instruments in order to assess variables such as resilience, coping and stress. More mixed methods studies are also needed to obtain narratives of successful coping and avoidance strategies used by undercover officers and assist in the design of training to improve support systems.

Conclusion

In conclusion, the present thesis highlighted that in spite of their levels of resilience, and the coping or detection avoidance strategies used by police officers, more has to be done to protect these officers. Furthermore, results indicate that the reality of undercover police work is quite different from its glamorous portrayal in the media. One can but admire the dedication and courage of the officers who accept the risks of working in police forces and volunteer to work in dangerous undercover/plainclothes operations (Macleod, 1995).

For the continued success of undercover investigations, and indeed police work in general, managers/supervisors and mental health professionals must improve the agents' support and welfare, whilst reducing potential operational and psychological risks. This can be done through selecting the most appropriate agents for the different assignments, monitoring UCO's well-being throughout operations and easing their transition back to

traditional police work with the support of everyone, including their uniformed colleagues (Band & Sheehan, 1999; Macleod, 1995).

Understanding the stressors affecting police officers, in general, and UCO's, in particular, and providing them with support must remain a priority in order to reduce their risk of harm and present them with the tools to bring dangerous offenders to justice (Band & Sheehan, 1999; Macleod, 1995). This thesis highlights the importance of the need to optimise selection procedures for undercover roles and the need for adequate training and support for UCO's. Addressing these issues may assist in decreasing staff turnover rates and risk, whilst increasing well-being and safety of police officers.

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Appendices

Appendix A: Details of search syntax for specific databases (original + updated)

PsycINFO 1967 to April Week 2 2018, 434 hits

1	resilien*.mp.	27507
2	coping.mp.	80854
3	1 or 2	104164
4	police.mp.	19498
5	law enforcement.mp.	7935
6	4 or 5	24174
7	3 and 6	792
8	limit 7 to (human and english language and yr="2007 -Current")	434

PsycINFO 1967 to March Week 2 2020, 92 hits

1	resilien*.mp.	33161
2	coping.mp.	87228
3	1 or 2	115433
4	police.mp.	21701
5	law enforcement.mp.	9506
6	4 or 5	27272
7	3 and 6	907
8	limit 7 to (human and english language and yr="2018 -Current")	92

Applied Social Sciences Index and Abstracts (ASSIA), 1756 hits

Searched for: ((((((noft(resilien*) OR noft(coping) AND noft(police) OR noft(law enforcement)) AND stype.exact("Magazines" OR "Trade Journals" OR "Scholarly Journals")) AND la.exact("English") AND pd(>20071231))

Limited by: Date: After 2007

Applied Social Sciences Index and Abstracts (ASSIA), 1612 hits

Searched for: ((noft(resilien*) OR noft(coping) AND noft(police) OR noft(law enforcement))
AND stype.exact("Magazines" OR "Trade Journals" OR "Scholarly Journals")) AND
la.exact("English") AND pd(>20180430)
Limited by: Date: After April 2018

Web of Science (All databases - Web of Science Core Collection; BIOSIS Citation Index; BIOSIS Previews; Data Citation Index; Derwent Innovations Index; KCI-Korean Journal Database; MEDLINE®; Russian Science Citation Index; SciELO Citation Index; Zoological Record), 631 hits

1	TS=(resilien* OR coping) <i>Timespan=2007-2018</i> <i>Search language=English</i>	243.939
2	TS=(police OR law enforcement) <i>Timespan=2007-2018</i> <i>Search language=English</i>	69.669
3	#2 AND #1 <i>Timespan=2007-2018</i> <i>Search language=English</i>	1.164
4	#2 AND #1 Refined by: DOCUMENT TYPES: (ARTICLE) <i>Timespan=2007-2018</i> <i>Search language=Auto</i>	942
5	#2 AND #1 Refined by: DOCUMENT TYPES: (ARTICLE) AND LANGUAGES: (ENGLISH) <i>Timespan=2007-2018</i> <i>Search language=Auto</i>	631

Web of Science (All databases - Web of Science Core Collection; BIOSIS Citation Index; BIOSIS Previews; Data Citation Index; Derwent Innovations Index; KCI-Korean Journal Database; MEDLINE®; Russian Science Citation Index; SciELO Citation Index; Zoological Record), 378 hits

1	TS=(resilien* OR coping) <i>Timespan=2018-2020</i> <i>Search language=English</i>	87.643
2	TS=(police OR law enforcement) <i>Timespan=2018-2020</i> <i>Search language=English</i>	24.079
3	#2 AND #1 <i>Timespan=2018-2020</i> <i>Search language=English</i>	440
4	#2 AND #1 Refined by: DOCUMENT TYPES: (ARTICLE) <i>Timespan=2018-2020</i> <i>Search language=Auto</i>	378

National Criminal Justice Reference Service (NCJRS) Abstracts – Proquest, 217 hits

(resilien* OR coping) AND (police OR law enforcement)

Limited by: Date: After 2007 and English language

National Criminal Justice Reference Service (NCJRS) Abstracts – Proquest, 56 hits

(resilien* OR coping) AND (police OR law enforcement)

Limited by: Date: After 2018 and English language

Appendix B: Full screening and selection tool

Study Characteristics	Eligibility criteria	Eligibility criteria met?			Location in text or source (pg & ¶/fig/table)				
		Yes	No	Unclear					
Population	Police Officers								
Types of intervention	Stress	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
Types of comparison	Not Necessary	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
Types of outcome measures	Resilience Coping	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
Types of study	Observational studies including cohort, longitudinal and cross-sectional studies	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
Other	Publication: 2007-2020 English	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
Results	Quantitative	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
INCLUDE <input type="checkbox"/>		EXCLUDE <input type="checkbox"/>							
Reason for exclusion									
Notes:									

DO NOT PROCEED TO QUALITY ASSESSMENT IF STUDY EXCLUDED FROM REVIEW

Appendix C: List of studies unable to retrieve full-text

- Miller, L. (2009). Criminal Investigator Stress: Symptoms, Syndromes, and Practical Coping Strategies. *International Journal of Emergency Mental Health*, 11(2), 87-92.
- Srivastava, S. (2009). Explorations in Police Organisation: An Indian Context. *Police Science & Management*, 11(3), 255-273.
- 손영진. (2018). Effects of active stress coping on job performance among police officers. *Korean Association of Public Safety and Criminal Justice Review*, 27(3), 215-242.

Appendix D: List of studies excluded at full-text PICOS assessment and final stage quality assessment with reasons

Excluded at full-text with PICOS

Focus on psychopathology as exposure variable (i.e., PTSD, secondary traumatic stress)

- Andrew, M. E., Howsare, J. L., Charles, L. E., McCanlies, E. C., Mnatsakanova, A., Hartley, T. A., Burchfiel, C. M., & Violanti, J. M. (2013). Associations between protective factors and psychological distress vary by gender: The buffalo cardio-metabolic occupational police stress study. *International Journal of Emergency Mental Health*, 15(4), 277-88.
- Andrew, M. E., McCanlies, E. C., Burchfiel, C. M., Charles, L., Hartley, T. A., Fekedulegn, D., & Violanti, J. M. (2008). Hardiness and psychological distress in a cohort of police officers. *International Journal of Emergency Mental Health*, 10(2), 137-148.
- Craun, S. W., Bourke, M. L., Bierie, D. M., & Williams, K. S. (2014). A longitudinal examination of secondary traumatic stress among law enforcement. *Victims & Offenders*, 9(3), 299-316.
- Hartley, T. A., Violanti, J. M., Mnatsakanova, A., Andrew, M. E., & Burchfiel, C. M. (2013). Military experience and levels of stress and coping in police officers. *International Journal of Emergency Mental Health*, 15(4), 229-39.
- Lee, J., Choi, H., Kim, J., Nam, J., Kang, H., Koh, S., & Oh, S. (2016). Self-resilience as a protective factor against development of post-traumatic stress disorder symptoms in police officers. *Annals of Occupational and Environmental Medicine*, 28, UNSP 58.
- McCanlies, E. C., Gu, J. K., Andrew, M. E., Burchfiel, C. M., & Violanti, J. M. (2017). Resilience mediates the relationship between social support and post-traumatic stress symptoms in police officers. *Journal of Emergency Management (Weston, Mass.)*, 15(2), 107-116.

McCanlies, E. C., Mnatsakanova, A., Andrew, M. E., Burchfiel, C. M., & Violanti, J. M. (2014). Positive psychological factors are associated with lower PTSD symptoms among police officers: Post hurricane katrina. *Stress and Health*, 30(5), 405-415.

Menard, K. S., & Arter, M. L. (2014). Stress, coping, alcohol use, and posttraumatic stress disorder among an international sample of police officers: Does gender matter? *Police Quarterly*, 17(4), 307-327.

Mrevlje, T. P. (2016). Coping with work-related traumatic situations among crime scene technicians. *Stress and Health*, 32(4), 374-382.

Park, O. B., Im, H., & Na, C. (2018). The consequences of traumatic events on resilience among south korean police officers mediation and moderation analyses. *Policing: An International Journal of Police Strategies & Management*, 41(1), 144-158.

van der Meulen, E., van der Velden, P. G., Setti, I., & van Veldhoven, M. J. P. M. (2017). Predictive value of psychological resilience for mental health disturbances: A three-wave prospective study among police officers. *Psychiatry Research*, 260, 486-494.

Focus on psychopathology as exposure variable (i.e., depression)

Hartley, T. A., Violanti, J. M., Sarkisian, K., Fekedulegn, D., Mnatsakanova, A., Andrew, M. E., & Burchfiel, C. M. (2014). Association between police-specific stressors and sleep quality: Influence of coping and depressive symptoms. *Journal of Law Enforcement Leadership and Ethics*, 1(1), 31-48.

McCanlies, E. C., Gu, J. K., Andrew, M. E., & Violanti, J. M. (2018). The effect of social support, gratitude, resilience and satisfaction with life on depressive symptoms among police officers following hurricane katrina. *International Journal of Social Psychiatry*, 64(1), 63-72.

Focus on psychopathology as exposure variable (i.e., suicidal ideation)

Pienaar, J., Rothmann, S., & Van de Vijver, F. J. R. (2007). Occupational stress, personality traits, coping strategies, and suicide ideation in the south african police service. *Criminal Justice and Behavior*, 34(2), 246-258.

Srisuttinan, W., Sutthithatip, S., Chayvimol, R., & Purananon, D. (2017). The coping of the police officers under Police Provincial Region 5's. *International Journal of Psychiatry*, 2(2), 1-4.

Focus on psychopathology as exposure variable (i.e., substance abuse)

Menard, K. S., & Arter, M. L. (2013). Police officer alcohol use and trauma symptoms: Associations with critical incidents, coping, and social stressors. *International Journal of Stress Management*, 20(1), 37-56.

Zavala, E., & Curry, T. R. (2018). The role of religious coping on problematic alcohol consumption by police officers. *Police Practice and Research*, 19(1), 31-45.

Focus on brain correlates and neuropsychology

Hennig-Fast, K., Werner, N. S., Lermer, R., Latscha, K., Meister, F., Reiser, M., Engel, R. R., & Meindl, T. (2009). After facing traumatic stress: Brain activation, cognition and stress coping in policemen. *Journal of Psychiatric Research*, 43(14), 1146-1155.

Peres, J. F. P., Foerster, B., Santana, L. G., Fereira, M. D., Nasello, A. G., Savoia, M., Moreira-Almeida, A., & Lederman, H. (2011). Police officers under attack: Resilience implications of an fMRI study. *Journal of Psychiatric Research*, 45(6), 727-734.

van der Werff, S. J. A., Elzinga, B. M., Smit, A. S., & van der Wee, N. J. A. (2017). Structural brain correlates of resilience to traumatic stress in dutch police officers. *Psychoneuroendocrinology*, 85, 172-178.

Focus on perception of their line managers' competencies and its associations

Houdmont, J., Jachens, L., Randall, R., Colwell, J., & Gardner, S. (2019). Stress management competency framework in English policing. *Occupational Medicine*, 70, 31-37.

Qualitative studies

FBI law enforcement bulletin, volume 80, issue 6, june 2011. (2011). *FBI Law Enforcement Bulletin*, 80(6), 1-33.

Gomes, A. R., & Afonso, J. M. P. (2016). Occupational stress and coping among portuguese military police officers. *Avances En Psicologia Latinoamericana*, 34(1), 47-65.

Gumani, M. A., Fourie, M. E., & Terre Blanche, M. J. (2013). Inner strategies of coping with operational work amongst SAPS officers. *SA Journal of Industrial Psychology*, 39(2), 1-10.

Harris, K. R., Eccles, D. W., Freeman, C., & Ward, P. (2017). "Gun! Gun! Gun!": An exploration of law enforcement officers' decision-making and coping under stress during actual events. *Ergonomics*, 60(8), 1112-1122.

Kelty, S. F., & Gordon, H. (2015). No burnout at this coal-face: Managing occupational stress in forensic personnel and the implications for forensic and criminal justice agencies. *Psychiatry Psychology and Law*, 22(2), 273-290.

Sollie, H., Kop, N., & Euwema, M. C. (2017). Mental Resilience of Crime Scene Investigators: How police officers perceive and cope with the impact of demanding work situations. *Criminal Justice and Behavior*, 44(12), 1580-1603.

Examining an intervention to develop resilience

deTerte, I., Stephens, C., & Huddleston, L. (2014). The development of a three part model of psychological resilience. *Stress and Health*, 30(5), 416-424.

Population (sample) included students or civilian workers, did not focus exclusively on police officers

Grubb, A., Brown, S., & Hall, P. (2015). Personality traits and coping styles in UK police officers. do negotiators differ from their non-negotiator colleagues? *Psychology Crime & Law*, 21(4), 347-374.

Salinas, C. R., & Webb, H. E. (2018). Occupational stress and coping mechanisms in crime scene personnel. *Occupational Medicine (Oxford, England)* 68(4), 239-245.

The context was too specific to be comparable to the generic profession of police officers

Hansson, J., Padyab, M., Ghazinour, M., & Cogent, O. A. (2017). The Swedish police service's deportations of unaccompanied, asylum-seeking refugee children: The role of coping and general mental health. *Cogent Psychology*, 4(1), 1-16.

The data were inadequate and/or there was no obvious measure of coping or resilience

Cieslak, I., Kielan, A., Olejniczak, D., Panczyk, M., Jaworski, M., Galazkowski, R., . . . Mikos, M. (2020). Stress at work: The case of municipal police officers. *Work: A Journal of Prevention Assessment & Rehabilitation*, 65(1), 145-152.

Griffin, J. D., & Sun, I. Y. (2018). Do work-family conflict and resiliency mediate police stress and burnout: A study of state police officers. *American Journal of Criminal Justice*, 43(2), 354-370.

John-Akinola, Y. O., Ajayi, A. O., & Oluwasanu, M. M. (2020). Experience of stress and coping mechanism among police officers in South Western Nigeria. *International Quarterly of Community Health Education*, 1-8.

McCarty, W. P., Zhao, J. S., & Garland, B. E. (2007). Occupational stress and burnout between male and female police officers - are there any gender differences? *Policing: An International Journal of Police Strategies & Management*, 30(4), 672-691.

Nelson, K. V., & Smith, A. P. (2016). Occupational stress, coping and mental health in Jamaican police officers. *Occupational Medicine-Oxford*, 66(6), 488-491.

Study in non-English language (German)

Georg, S., Wolter, C., Maria, A. S., Kleiber, D., & Renneberg, B. (2019). Which factors influence mental health at work? Empirical results for police officers. *Pravention Und Gesundheitsforderung*, 14(4), 384-391.

Excluded at final stage (quality assessment)

Studies were excluded due to obtaining scores below Good (<67%)

Main issues to do with reporting bias

Clark-Miller, J., & Brady, H. C. (2013). Critical stress: Police officer religiosity and coping with critical stress incidents. *Journal of Police and Criminal Psychology*, 28(1), 26-34.

Main issues to do with missing information about study population

Jelas, I., G., Korak, D., & Vukosav, J. (2014). Relationship between police officers personality traits, health and coping mechanisms. *European Police Science and Research Bulletin*, 10, 12-16.

Main issues to do with inadequate outcome measures

Kubiak, J., Krick, A., & Egloff, B. (2017). Keep your eyes open: Dispositional vigilance moderates the relationship between operational police stress and stress symptoms. *Anxiety Stress and Coping*, 30(5), 598-607.

Main issues to do with reporting bias and selection bias

Louw, G. J., & Viviers, A. (2010). An evaluation of a psychosocial stress and coping model in the police work context. *SA Journal of Industrial Psychology*, 36(1), 1-11.

Main issues to do with missing information about study population and bias in the analysis

Morash, M., Jeongb, S. J., Haarr, R. N., & Hoffman, V. (2011). The connection of police strategies for coping with workplace problems to stress in two countries. *International Journal of Comparative and Applied Criminal Justice*, 35(2), 89-103.

Main issues to do with missing information about participation rate, sample size justification and selection bias

Singh, S., Gupta, B., Sharma, D., & Mishra, P. C. (2019). A study of stress, coping, social support, and mental health in police personnel of Uttar Pradesh. *Indian Journal of Occupational and Environmental Medicine*, 23(2), 73-78.

Wassermann, A., Meiring, D., & Becker, J. R. (2019). Stress and coping of police officers in the South African police service. *South African Journal of Psychology*, 49(1), 97-108.

Main issues to do with selection bias, reporting bias, missing information about study population and bias in the analysis

Rao, V., & Singh, S. (2017). Job Stress, Well-Being and Coping: A Correlational Study among Police Personnel. *International Journal of Indian Psychology*, 4(3), 30-34.

Appendix E: Quality assessment tool

[Article Reference]			
Criteria	Yes (1)	No (0)	Other (CD, NA, NR)* (0)
1. Was the research question or objective in this paper clearly stated?			
2. Was the study population clearly specified and defined?			
3. Was the participation rate of eligible persons at least 50%?			
4. Were all the subjects selected or recruited from the same or similar populations (including the same time period)? Were inclusion and exclusion criteria for being in the study prespecified and applied uniformly to all participants?			
5. Was a sample size justification, power description, or variance and effect estimates provided?			
6. Were the outcome measures (coping and/or resilience) clearly defined, valid, reliable, and implemented consistently across all study participants?			
Risk of bias	Low (1)	High (0)	Other (CD, NA, NR)* (0)
7. Selection bias (were the individuals selected to participate in the study likely to be representative of the target population?)			
8. Reporting bias (were all outcomes stated to be measured actually reported or did the authors fail to report outcomes?)			
9. Analysis (were the data for all participants included in the final analysis?)			

*CD, cannot determine; NA, not applicable; NR, not reported

Quality Rating (Good, Fair/Moderate, or Poor)	Additional Comments:
Rater #1 initials:	
Rater #2 initials:	

Appendix F: Guidelines and significance for rating quality assessment tool

Question 1. Research question

Did the authors describe their goal in conducting this research? Is it easy to understand what they were looking to find? Higher quality scientific research explicitly defines a research question.

Questions 2 and 3. Study population

Did the authors describe the group of people from which the study participants were selected or recruited, using demographics, location, and time period? If the study was to be replicated would future researchers know who to recruit, from where, and from what time period?

If fewer than 50% of eligible persons participated in the study, then there is concern that the study population does not adequately represent the target population. This increases the risk of bias.

Question 4. Groups recruited from the same population and uniform eligibility criteria

Were the inclusion and exclusion criteria developed prior to recruitment or selection of the study population? Were the same underlying criteria used for all of the subjects involved? This issue is related to the description of the study population.

Question 5. Sample size justification

Did the authors present their reasons for selecting or recruiting the number of people included or analysed? Do they note or discuss the statistical power of the study? This question is about whether or not the study had enough participants to detect an association if one truly existed. However, observational cohort studies often do not report anything about power or sample sizes because the analyses are exploratory in nature. In this case, the answer would be ‘no or NR’. This is not a ‘fatal flaw’. It just may indicate that attention was not paid to whether the study was sufficiently sized to answer a prespecified question – i.e., it may have been an exploratory, hypothesis-generating study.

Question 6. Outcome measures

Were the outcomes defined in detail? Were the tools or methods for measuring outcomes accurate and reliable – for example, have they been validated or are they objective? This issue is important because it influences confidence in the validity of the study results.

Question 7. Selection bias

Were the individuals selected to participate in the study likely to be representative of the target population? It is important to assess how generalisable and transferable the study results are to the target population.

Question 8. Reporting bias

Were all outcomes stated to be measured actually reported or did the study authors fail to report (i.e., selective reporting) outcomes that showed no (or a negative) effect? What reasons were given to explain the failure to report all stated outcome measures?

Question 9. Analysis

Were the data for all participants included in the final analysis (even those participants who withdrew)? If there are data missing from a number of participants and there are not accounted for, published results will not properly reflect the results of the study.

Appendix G: Quality assessment summary of all studies ($n = 26$)

Authors, Year	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Total % (Quality rating)	Comments
Acquadro Maran et al., 2014	1	1	0	1	0	1	1	1	1	77.8% (Good)	
Acquadro Maran et al., 2015	1	1	0	1	0	1	1	1	1	77.8% (Good)	
Acquadro Maran, Zedda, & Varetto, 2018	1	1	1	1	0	1	1	1	0	77.8% (Good)	
Balmer, Pooley, & Cohen, 2014	1	1	0	1	0	1	1	1	1	77.8% (Good)	
Briones Mella & Kinkead Boutin, 2013	1	1	0	1	0	1	1	1	1	77.8% (Good)	
Brough, Drummond, & Biggs, 2018	1	1	1	1	0	1	1	1	1	88.9% (Good)	
Clark-Miller & Brady, 2013	1	1	1	1	0	1	1	0	0	66.7% (Fair/Moderate)	Excluded
Daderman & De Colli, 2014	1	1	1	1	0	1	1	1	1	88.9% (Good)	

Authors, Year	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Total % (Quality rating)	Comments
Fyhn, Fjell, & Johnsen, 2016	1	1	1	1	0	1	1	1	1	88.9% (Good)	
Galanis et al., 2019	1	1	1	1	1	1	0	1	1	88.9% (Good)	
Gershon et al., 2009	1	1	1	1	1	1	1	1	1	100% (Good)	
Jelas, Korak, & Vukosav, 2014	1	0	0	0	0	1	0	1	1	44.4% (Fair/Moderate)	Excluded
Kaur, Chodagiri, & Reddi, 2013	1	1	1	1	0	1	1	1	1	88.9% (Good)	
Kubiak, Krick, & Egloff, 2017	1	1	1	0	0	0	1	1	1	66.7% (Fair/Moderate)	Excluded
Lipp, 2009	1	1	1	1	0	0	1	1	1	77.8% (Good)	
Louw & Viviers, 2010	1	1	1	1	0	1	0	0	0	55.6% (Fair/Moderate)	Excluded
Morash et al., 2008	1	1	1	1	0	1	1	1	0	77.8% (Good)	

Authors, Year	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Total % (Quality rating)	Comments
Morash et al., 2011	1	1	1	0	0	1	1	1	0	66.7% (Fair/Moderate)	Excluded
Mushwana, Govender, & Nel, 2019	1	1	1	1	0	1	1	1	1	88.9% (Good)	
Padyab, Backteman-Erlanson, & Brulin, 2016	1	1	1	1	0	1	1	1	1	88.9% (Good)	
Rao & Singh, 2017	1	1	0	1	0	1	0	0	0	44.4% (Fair/Moderate)	Excluded
Singh, 2017	1	1	0	1	0	1	1	1	1	77.8% (Good)	
Singh et al., 2019	1	1	0	1	0	1	0	1	1	66.7% (Fair/Moderate)	Excluded
Violanti et al., 2014	1	1	1	1	0	1	1	1	1	88.9% (Good)	
Wassermann, Meiring, & Becker, 2019	1	1	0	1	0	1	0	1	1	66.7% (Fair/Moderate)	Excluded
Yun et al., 2013	1	1	1	1	0	1	0	1	1	77.8% (Good)	

Appendix H: Final articles with titles ($n = 18$)

Authors	Year	Article Title	Quality Rating
Acquadro Maran et al.	2014	Stress among Italian male and female patrol police officers: A quali-quantitative survey	77.8%
Acquadro Maran et al	2015	Occupational stress, anxiety and coping strategies in police officers	77.8%
Acquadro Maran, Zedda, & Varetto	2018	Organizational and occupational stressors, their consequences and coping strategies: A questionnaire survey among Italian patrol police officers	77.8%
Balmer, Pooley, & Cohen	2014	Psychological resilience of western Australian police officers: Relationship between resilience, coping style, psychological functioning and demographics	77.8%
Briones Mella & Kinkead Boutin	2013	Burnout and coping strategies in male staff from national police in Valparaíso, Chile	77.8%
Brough, Drummond, & Biggs	2018	Job support, coping, and control: Assessment of simultaneous impacts within the occupational stress process	88.9%
Daderman & De Colli	2014	The significance of the sense of coherence for various coping resources in stress situations used by police officers in on-the-beat service	88.9%
Fyhn, Fjell, & Johnsen	2016	Resilience factors among police investigators: Hardiness-commitment a unique contributor	88.9%
Galanis et al.	2019	Risk factors for occupational stress among Greek police officers	88.9%
Gershon et al.	2009	Mental, physical, and behavioral outcomes associated with perceived work stress in police officers	100%

Authors	Year	Article Title	Quality Rating
Kaur, Chodagiri, & Reddi	2013	A psychological study of stress, personality and coping in police personnel	88.9%
Lipp	2009	Stress and quality of life of senior Brazilian police officers	77.8%
Morash et al.	2008	Stressors, coping resources and strategies, and police stress in South Korea	77.8%
Mushwana, Govender, & Nel	2019	Stress and coping mechanisms of officers of the South African police service based in Tzaneen, Limpopo province, South Africa	88.9%
Padyab, Backteman-Erlanson, & Brulin	2016	Burnout, coping, stress of conscience and psychosocial work environment among patrolling police officers	88.9%
Singh	2017	Coping with work stress in police employees	77.8%
Violanti et al.	2014	Police work absence: An analysis of stress and resiliency	88.9%
Yun et al.	2013	A study on police stressors, coping strategies, and somatization symptoms among south korean frontline police officers	77.8%

Appendix I: Data extraction form

Title:	
Author(s):	
Year:	
Study location (i.e., Country):	
Hypothesis/aims being tested:	
Population size:	
Mean age (SD):	
Type of police:	
Type of measures:	
Results: <ul style="list-style-type: none">• Outcome variables (i.e., resilience and coping)	
Study limitations:	
Implications for practice:	
Other:	

Appendix J: Research Consent Form [English]



Research Consent Form

Title of study: Protective and enabling factors that facilitate undercover police work

Researcher: Lúcia Cajada

Supervisor: Dr Darren Bishopp

By signing this form you have agreed to participate in a research study looking at protective and enabling factors that facilitate undercover police work. Please make sure that you have understood the information provided and are willing to let your information be used for research purposes. If you wish to withdraw from the study you are free to do so at any time. All information will remain confidential through the assignment of an ID code, and anonymous in a way that it cannot be traced back to an individual participant. If you want to withdraw from the study then please contact the researcher, up to four weeks after completing the questionnaire/interview, Lúcia Cajada or her supervisor Dr Darren Bishopp in the Centre for Forensic and Criminological Psychology, Psychology Department, University of Birmingham, Edgbaston, Birmingham, W. Midlands, B15 2TT.

Emails: [REDACTED]

Please tick the following and sign at the bottom:

I have read and understood the information provided

☐

I am willing to take part in the research

☐

Name

Date

Signed

The information on this form will be kept separately from the questionnaires/interviews and not used for any other purposes.

Appendix K: Research Consent Form [Portuguese]



Formulário de Consentimento Informado

Título do estudo: Fatores Protetores e Habilitadores que Facilitam o Trabalho de Polícias em operações de seguimento e vigilância e de pesquisa de notícias/obtenção de informações (undercover)

Investigadora: Mestre Lúcia Cajada

Supervisor: Doutor Darren Bishopp

Ao assinar este formulário está a concordar em participar num estudo de investigação que analisa os fatores protetores e habilitadores que facilitam o trabalho de polícias no âmbito da investigação criminal, intervenientes em missões de seguimento e vigilância e de pesquisa de notícias/obtenção de informações. Por favor assegure-se de ter compreendido as informações fornecidas e de que está disposto(a) a permitir que suas informações sejam usadas para fins de investigação. Se desejar retirar-se do estudo, pode fazê-lo a qualquer momento. Todas as suas informações serão tratadas confidencialmente através da atribuição de um código de identificação, e todos os dados serão anonimizados e mantidos de forma segura, de forma a que não possam ser ligados a qualquer participante individual. Se desejar retirar-se do estudo, entre em contacto com a investigadora, até quatro semanas após a entrevista, Mestre Lúcia Cajada ou com o seu supervisor Doutor Darren Bishopp no Centro de Psicologia Forense e Criminal, Departamento de Psicologia, Universidade de Birmingham, Edgbaston, Birmingham, W. Midlands, B15 2TT.

Emails: [REDACTED]

Por favor selecione as opções e assine em baixo:

Eu li e entendi a informação fornecida

☐

Eu estou disposto(a) a participar na investigação

☐

Nome

Data

Assinatura

As informações contidas neste formulário serão mantidas em separado das entrevistas/questionários e não serão utilizadas para outros fins.

Appendix L: Participant Information Sheet (Survey) [English]



Participant Information Sheet (Survey)

Study of Protective and Enabling Factors that Facilitate Undercover Police Work

The purpose of this study is to explore the protective and enabling factors that facilitate undercover police work. To achieve this, the study will look at individuals' perceptions on resilience, cognitive flexibility, deception and personality traits. It is known that reactions to different types of stressors are likely to vary depending on the circumstances facing individuals. Thus, resilience is a dynamic concept; an individual may show destructive/maladaptive responses in certain situations at different times in their life and resilience during others (Masten & O'Dougherty Wright, 2010). The information you provide will be used to identify the protective and enabling factors of police officers, which will support the elaboration of recommendations that will further strengthen the protective factors of officers in the police forces. As such, it is expected that these recommendations can increase the well-being of the officers while decreasing turnover rates in the police forces.

Eligibility

This study is open to both male and female participants who are current or former police officers that have or have not been undercover.

What is involved?

Firstly, you need to consent to the research, by signing the form. Then you will be asked by the researcher (with an online link) to complete a questionnaire which should take approximately half an hour. Within the questionnaire, you will also find some basic demographic information. We would ask you to be as honest as possible, to allow for reporting of results that reflect reality. There are no right or wrong answers, this is a study based on your perceptions.

Participation

Taking part is entirely voluntary and you can withdraw at any time. All your information will be treated in confidence through the assignment of an ID code, and all questionnaire data will be anonymised and kept securely in a way that it cannot be traced back to an individual participant. If you want to withdraw from the study then please contact the researcher, up to four weeks after completing the questionnaire, Lúcia Cajada or her supervisor Dr Darren Bishopp in the Centre for Forensic and Criminological Psychology, Psychology Department, University of Birmingham, Edgbaston, Birmingham, W. Midlands, B15 2TT.
Emails: LFD577@student.bham.ac.uk

BishoDCF@bham.ac.uk Tel:0121 4143665

Thank you for taking the time to read this information sheet and for considering whether or not to take part in this project.

Appendix M: Participant Information Sheet (Survey) [Portuguese]



UNIVERSITY OF
BIRMINGHAM

School of Psychology

Informações do Participante (Pesquisa por questionário)

Estudo de Fatores Protetores e Habilitadores que Facilitam o Trabalho de Polícias em operações de seguimento e vigilância e de pesquisa de notícias/obtenção de informações (*undercover*)

O objetivo deste estudo é explorar os fatores protetores e habilitadores que facilitam o trabalho de polícias no âmbito da investigação criminal em operações de seguimento e vigilância, na recolha de informações e na gestão de fontes de informação humanas (vulgo informadores) oriundas do meio criminal. Para atingir isso, o estudo examinará as percepções dos indivíduos sobre resiliência, flexibilidade cognitiva, mentira e traços de personalidade. Sabe-se que as reações a diferentes tipos de stressores variam, provavelmente, de acordo com as diferenças individuais em estratégias de *coping*. Como tal, a resiliência é um conceito dinâmico; um indivíduo pode demonstrar respostas destrutivas/inadaptadas em certas situações em diferentes momentos da sua vida e resiliência noutros (Masten & O'Dougherty Wright, 2010). A informação que fornecer será usada para identificar os fatores protetores e habilitadores de polícias no decurso de operações de seguimento e vigilância, na recolha de informações e na gestão de fontes de informação humanas (vulgo informadores) oriundas do meio criminal, e apoiará a elaboração de recomendações que fortaleçam ainda mais os fatores protetores destes agentes nos órgãos de investigação criminal. Como tal, espera-se que essas recomendações possam aumentar o bem-estar dos agentes, e em simultâneo, diminuir a insatisfação no trabalho e as taxas de rotatividade voluntária nas forças policiais.

Elegibilidade

Este estudo está aberto a participantes do sexo masculino e feminino que tenham desempenhado funções no âmbito da investigação criminal.

O que envolve?

Em primeiro lugar, é necessário concordar com a pesquisa, assinando o formulário de consentimento informado. Em seguida, ser-lhe-á solicitado pela investigadora (através de um link online) que complete um questionário que deve demorar aproximadamente meia hora. Dentro do questionário, também encontrará alguns dados demográficos básicos. Pedimos que seja o mais honesto possível, para permitir o relatório de resultados que refletem a realidade. Não há respostas certas ou erradas, este é um estudo baseado nas suas percepções.

Participação

Participar é totalmente voluntário e pode terminar a sua participação no estudo a qualquer momento. Todas as suas informações serão tratadas confidencialmente através da atribuição de um código de identificação, e todos os dados serão anonimizados e mantidos de forma segura, de forma a que não possam ser ligados a qualquer participante individual. Se desejar retirar-se do estudo, entre em contacto com a investigadora, até quatro semanas após completar o questionário, Mestre Lúcia Cajada ou com o seu supervisor Doutor Darren Bishopp no Centro de Psicologia Forense e Criminal, Departamento de Psicologia, Universidade de Birmingham, Edgbaston, Birmingham, W. Midlands, B15 2TT.

Emails: LFD577@student.bham.ac.uk

BishoDCF@bham.ac.uk

Tel: 0044 121 4143665

Muito obrigada por despende o seu tempo a ler esta folha de informações e por considerar se deve ou não participar neste projeto.

Appendix N: Participant Information Sheet (Interview) [English]



Participant Information Sheet (Interview)

Study of Protective and Enabling Factors that Facilitate Undercover Police Work

The purpose of this study is to explore the protective and enabling factors that facilitate undercover police work. To achieve this, the study will look at individuals' perceptions on job demands, coping strategies, deception, and secrecy. It is known that reactions to different types of stressors are likely to vary depending on the circumstances facing individuals. Thus, resilience is a dynamic concept; an individual may show destructive/maladaptive responses in certain situations at different times in their life and resilience during others (Masten & O'Dougherty Wright, 2010). The information you provide will be used to identify the protective and enabling factors of police officers, which will support the elaboration of recommendations that will further strengthen the protective factors of officers in the police forces. As such, it is expected that these recommendations can increase the well-being of the officers while decreasing turnover rates in the police forces.

Eligibility

This study is open to both male and female participants who are current or former police officers that have been undercover.

What is involved?

Firstly, you need to consent to the research, by signing the form. Then you will be asked by the researcher (in person, or via the phone) to answer some questions during an interview which should take approximately half an hour. During the interview, you will be asked questions regarding your coping strategies in meeting your job demands. We would ask you to be as honest as possible, to allow for reporting of results that reflect reality. There are no right or wrong answers, this is a study based on your perceptions.

Participation

Taking part is entirely voluntary and you can withdraw at any time. All your information will be treated in confidence through the assignment of an ID code, and all data will be anonymised and kept securely in a way that it cannot be traced back to an individual participant. If you want to withdraw from the study then please contact the researcher, up to four weeks after completing the interview, Lúcia Cajada or her supervisor Dr Darren Bishopp in the Centre for Forensic and Criminological Psychology, Psychology Department, University of Birmingham, Edgbaston, Birmingham, W. Midlands, B15 2TT.

Emails: LFD577@student.bham.ac.uk
BishoDCF@bham.ac.uk Tel:0121 4143665

Thank you for taking the time to read this information sheet and for considering whether or not to take part in this project.

Appendix O: Participant Information Sheet (Interview) [Portuguese]



UNIVERSITY OF
BIRMINGHAM

School of Psychology

Informações do Participante (Entrevista)

Estudo de Fatores Protetores e Habilitadores que Facilitam o Trabalho de Polícias em operações de seguimento e vigilância e de pesquisa de notícias/obtenção de informações (*undercover*)

O objetivo deste estudo é explorar os fatores protetores e habilitadores que facilitam o trabalho de polícias no âmbito da investigação criminal em operações de seguimento e vigilância, na recolha de informações e na gestão de fontes de informação humanas (vulgo informadores) oriundas do meio criminal. Para atingir isso, o estudo examinará as percepções dos indivíduos sobre as exigências profissionais, estratégias de *coping*, mentira e secretismo. Sabe-se que as reações a diferentes tipos de stressores variam, provavelmente, de acordo com as diferenças individuais em estratégias de *coping*. Como tal, a resiliência é um conceito dinâmico; um indivíduo pode demonstrar respostas destrutivas/inadaptadas em certas situações em diferentes momentos da sua vida e resiliência noutros (Masten & O'Dougherty Wright, 2010). A informação que fornecer será usada para identificar os fatores protetores e habilitadores de polícias no decurso de operações de seguimento e vigilância, na recolha de informações e na gestão de fontes de informação humanas (vulgo informadores) oriundas do meio criminal, e apoiará a elaboração de recomendações que fortaleçam ainda mais os fatores protetores destes agentes nos órgãos de investigação criminal. Como tal, espera-se que essas recomendações possam aumentar o bem-estar dos agentes, e em simultâneo, diminuir a insatisfação no trabalho e as taxas de rotatividade voluntária nas forças policiais.

Elegibilidade

Este estudo está aberto a participantes do sexo masculino e feminino que tenham desempenhado funções no âmbito da investigação criminal em operações de seguimento e vigilância, na recolha de informações e na gestão de fontes de informação humanas (vulgo informadores) oriundas do meio criminal.

O que envolve?

Em primeiro lugar, é necessário concordar com a pesquisa, assinando o formulário de consentimento informado. Em seguida, ser-lhe-á solicitado pela investigadora (pessoalmente ou por telefone) a resposta a algumas perguntas durante uma entrevista que deve demorar aproximadamente meia hora. Durante a entrevista, será questionado sobre as suas estratégias de *coping* ao responder às suas exigências profissionais. Pedimos que seja o mais honesto possível, para permitir o relatório de resultados que refletem a realidade. Não há respostas certas ou erradas, este é um estudo baseado nas suas percepções.

Participação

Participar é totalmente voluntário e pode terminar a entrevista a qualquer momento. Todas as suas informações serão tratadas confidencialmente através da atribuição de um código de identificação, e todos os dados serão anonimizados e mantidos de forma segura, de forma a que não possam ser ligados a qualquer participante individual. Se desejar retirar-se do estudo, entre em contacto com a investigadora, até quatro semanas após a entrevista, Mestre Lúcia Cajada ou com o seu supervisor Doutor Darren Bishopp no Centro de Psicologia Forense e Criminal, Departamento de Psicologia, Universidade de Birmingham, Edgbaston, Birmingham, W. Midlands, B15 2TT.

Emails: LFD577@student.bham.ac.uk

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Muito obrigada por despende o seu tempo a ler esta folha de informações e por considerar se deve ou não participar neste projeto.

Appendix P: Demographics Form [English]

Demographics Form

The University of Birmingham is committed to the active promotion of equal opportunities in research.

The information you give will be treated as strictly confidential and is subject to the provisions of the Data Protection Act 1998. It will not be used at any stage of the research.

1. GENDER (please tick): Male _____ Female _____

2. DISABILITY (please tick) Yes _____ No _____

Nature of your disability _____

3. AGE _____

4. MARITAL STATUS (please tick) Single _____ Married _____
Divorced _____ Widow _____

5. NATIONALITY, please write in

6. DO YOU HAVE PREVIOUS OR CURRENT UNDERCOVER EXPERIENCE?
(please tick)

Yes _____ No _____

6.1 Length of Experience in Undercover Work _____ Years _____ Months

6.2 Length of Experience in the Police Force _____ Years _____ Months

Thank you for your help in completing this form.

By completing this form, I consent to the processing by the University of Birmingham of the information contained in this form, by any means, for the purposes of the University's research.

Appendix Q: Demographics Form [Portuguese]

Dados Demográficos

A Universidade de Birmingham está comprometida com a promoção ativa da igualdade de oportunidades em investigação.

As informações que fornecer serão tratadas como estritamente confidenciais e estão sujeitas às disposições da Lei de Proteção de Dados Pessoais de 1998. Os seus dados pessoais não serão usados em nenhuma fase da investigação.

1. GÉNERO (por favor escolha uma opção): Masculino _____ Feminino _____

2. INCAPACIDADE (por favor escolha uma opção) Sim _____ Não _____

Natureza da incapacidade _____

3. IDADE _____

4. ESTADO CIVIL (por favor escolha uma opção) Solteiro _____ Casado _____

Divorciado _____ Viúvo _____

5. NACIONALIDADE, por favor escreva

6. TEM EXPERIÊNCIA ATUAL OU PRÉVIA DE SEGUIMENTO E VIGILÂNCIA?
(por favor escolha uma opção)

Sim _____ Não _____

6.1 Tempo de Experiência de Seguimento e Vigilância _____ Anos _____ Meses

6.2 Tempo de Experiência na Força Policial _____ Anos _____ Meses

Muito obrigada pela sua ajuda ao preencher este formulário.

Ao preencher este formulário, aceito o processamento pela Universidade de Birmingham das informações contidas no formulário, por qualquer meio, para fins de investigação da Universidade.

Appendix R: Resilience Scale (RS; Wagnild & Young, 1993) [English]

Resilience Scale (RS; Wagnild & Young, 1993)

<p>Please read the instructions.</p> <p>You will find a seven-point scale, ranging from "1" (Strongly Disagree) to "7" (Strongly Agree). Please place an (X) in the number that best indicates the extent to which the following statements apply to you. For example, if you strongly disagree with the statement select "1". If you are neutral, select "4" and if you strongly agree, select "7".</p>	Strongly Disagree	Mostly Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Mostly Agree	Strongly Agree
	1	2	3	4	5	6	7
1. When I make plans I follow through with them							
2. I usually manage one way or another							
3. I am able to manage myself more than anyone else							
4. Keeping interested in things is important to me							
5. I can be on my own if I have to							
6. I feel proud that I have accomplished things in my life							
7. I usually take things in stride							
8. I am friends with myself							
9. I feel that I can handle many things at a time							
10. I am determined							
11. I seldom wonder what the point of it all is							
12. I take things one day at a time							
13. I can get through difficult times because I've experienced difficulties before							
14. I have self-discipline							
15. I keep interested in things							
16. I can usually find something to laugh about							
17. My belief in myself gets me through hard times							
18. In an emergency, I'm someone people generally can rely on							
19. I can usually look at a situation in a number of ways							
20. Sometimes I make myself do things whether I want to or not							
21. My life has meaning							

22. I do not dwell on things that I can't do anything about							
23. When I'm in a difficult situation, I can usually find my way out of it							
24. I have enough energy to do what I have to do							
25. It's okay if there are people who don't like me							

Appendix S: Resilience Scale (RS; Ng Deep & Leal, 2012; Wagnild & Young, 1993)
[Portuguese]

Resilience Scale (Ng Deep & Leal, 2012)

Por favor, leia as instruções. Encontrará sete números, que variam de "1" (Discordo Totalmente) a "7" (Concordo Totalmente). Assinale com uma cruz (X) o número que melhor indica como se sente em relação a cada afirmação. Por exemplo, se discordar totalmente com a afirmação, assinale "1". Se for neutro, assinale "4" e se concordar totalmente, assinale "7".	Discordo Totalmente	Discordo Muito	Discordo Pouco	Não Discordo e nem Concordo	Concordo Pouco	Concordo Muito	Concordo Totalmente
	1	2	3	4	5	6	7
1. Quando faço planos, levo-os até ao fim							
2. Eu normalmente acabo por conseguir alcançar os meus objetivos							
3. Sou capaz de depender de mim próprio/a mais do que de qualquer outra pessoa							
4. Manter-me interessado/a nas atividades do dia-a-dia é importante para mim							
5. Posso estar por conta própria se for preciso							
6. Sinto-me orgulhoso/a por ter alcançado objetivos na minha vida							
7. Normalmente faço as coisas conforme elas vão surgindo							
8. Sou amigo/a de mim próprio/a							
9. Sinto que consigo lidar com várias coisas ao mesmo tempo							
10. Sou determinado/a							
11. Raramente me questiono se a vida tem sentido							
12. Vivo um dia de cada vez							
13. Posso passar por tempos difíceis porque enfrentei tempos difíceis antes							
14. Tenho autodisciplina							
15. Mantenho-me interessado/a nas coisas							
16. Geralmente consigo encontrar algo que me faça rir							
17. A confiança em mim próprio/a ajuda-me a lidar com tempos difíceis							

18. Numa emergência, sou alguém com quem geralmente as pessoas podem contar							
19. Normalmente consigo olhar para uma situação de várias perspetivas							
20. Às vezes obrigo-me a fazer coisas que queira que não							
21. A minha vida tem sentido							
22. Eu não fico obcecado/a com coisas que não posso resolver							
23. Quando estou numa situação difícil, normalmente consigo encontrar uma solução							
24. Tenho energia suficiente para fazer o que deve ser feito							
25. Não tenho problema com o facto de haver pessoas que não gostam de mim							

Appendix T: International Personality Item Pool (IPIP) Big-Five Factor Markers (Goldberg, 2001) [English]

International Personality Item Pool (IPIP) Big-Five Factor Markers (Goldberg, 2001)

Describe yourself as you generally are now, not as you wish to be in the future. Describe yourself as you honestly see yourself, in relation to other people you know of the same sex as you are, and roughly your same age. So that you can describe yourself in an honest manner, your responses will be kept in absolute confidence. Indicate for each statement whether it is 1. Very Inaccurate, 2. Moderately Inaccurate, 3. Neither Accurate Nor Inaccurate, 4. Moderately Accurate, or 5. Very Accurate as a description of you.	Very Inaccurate	Moderately Inaccurate	Neither Accurate Nor Inaccurate	Moderately Accurate	Very Accurate
	1	2	3	4	5
1. Am the life of the party					
2. Feel little concern for others					
3. Am always prepared					
4. Get stressed out easily					
5. Have a rich vocabulary					
6. Don't talk a lot					
7. Am interested in people					
8. Leave my belongings around					
9. Am relaxed most of the time					
10. Have difficulty understanding abstract ideas					
11. Feel comfortable around people					
12. Insult people					
13. Pay attention to details					
14. Worry about things					
15. Have a vivid imagination					
16. Keep in the background					
17. Sympathise with others' feelings					
18. Make a mess of things					
19. Seldom feel blue					
20. Am not interested in abstract ideas					
21. Start conversations					
22. Am not interested in other people's problems					

23. Get chores done right away					
24. Am easily disturbed					
25. Have excellent ideas					
26. Have little to say					
27. Have a soft heart					
28. Often forget to put things back in their proper place					
29. Get upset easily					
30. Do not have a good imagination					
31. Talk to a lot of different people at parties					
32. Am not really interested in others					
33. Like order					
34. Change my mood a lot					
35. Am quick to understand things					
36. Don't like to draw attention to myself					
37. Take time out for others					
38. Shirk my duties					
39. Have frequent mood swings					
40. Use difficult words					
41. Don't mind being the centre of attention					
42. Feel others' emotions					
43. Follow a schedule					
44. Get irritated easily					
45. Spend time reflecting on things					
46. Am quiet around strangers					
47. Make people feel at ease					
48. Am exacting in my work					
49. Often feel blue					
50. Am full of ideas					

Appendix U: International Personality Item Pool (IPIP) Big-Five Factor Markers (Goldberg, 2001; Oliveira, n.d.) [Portuguese]

International Personality Item Pool (IPIP) Big-Five Factor Markers (Oliveira, n.d.)

<p>Descreva-se como é agora em geral, não como deseja ser no futuro. Descreva-se a si mesmo quando se vê com honestidade, em relação a outras pessoas que conhece do mesmo sexo que o seu, e aproximadamente com a mesma idade. Para que se possa descrever de maneira honesta, as suas respostas serão mantidas em absoluta confiança.</p> <p>Indique para cada afirmação se é 1. Muito incorreto, 2. Moderadamente incorreto, 3. Nem correto, nem incorreto, 4. Moderadamente correto ou 5. Muito correto como uma descrição sua.</p>	Muito Incorreto	Moderadamente Incorreto	Nem Correto nem Incorreto	Moderadamente Correto	Muito Correto
	1	2	3	4	5
1. Sou a vida de uma festa					
2. Sinto pouca preocupação pelos outros					
3. Estou sempre preparado/a					
4. Fico stressado/a com facilidade					
5. Possuo um vocabulário rico					
6. Não falo muito					
7. Estou interessado/a nas pessoas					
8. Deixo os meus pertences por aí					
9. Estou calmo/a a maior parte do tempo					
10. Tenho dificuldade em entender ideias abstractas					
11. Sinto-me confortável no meio dos outros					
12. Insulto os outros					
13. Presto atenção aos detalhes					
14. Preocupo-me com as coisas					
15. Tenho uma imaginação vívida					
16. Prefiro manter-me em segundo plano					
17. Simpatizo com os sentimentos dos outros					
18. Faço uma confusão com as coisas					
19. Raramente me sinto triste					
20. Não me interesso por ideias abstractas					

21. Início conversas					
22. Não estou interessado/a nos problemas dos outros					
23. Realizo as tarefas imediatamente					
24. Sou facilmente perturbado/a					
25. Tenho excelentes ideias					
26. Tenho pouco para dizer					
27. Tenho um coração mole					
28. Muitas vezes esqueço-me de colocar as coisas no seu devido lugar					
29. Fico preocupado/a com facilidade					
30. Não tenho uma boa imaginação					
31. Falo com muitas pessoas diferentes em festas					
32. Não estou realmente interessado/a nos outros					
33. Gosto de ordem					
34. Mudo de humor com frequência					
35. Sou rápido/a a compreender as coisas					
36. Não gosto de chamar a atenção para mim próprio/a					
37. Dedico tempo a outros					
38. Fujo às minhas obrigações					
39. Tenho mudanças frequentes de humor					
40. Uso palavras difíceis					
41. Não me importo de ser o centro das atenções					
42. Sinto as emoções dos outros					
43. Sigo um plano					
44. Irrito-me com facilidade					
45. Passo tempo a refletir sobre as coisas					
46. Estou tranquilo/a na presença de desconhecidos					
47. Faço com que as pessoas se sintam à vontade					
48. Sou exigente no meu trabalho					
49. Muitas vezes sinto-me triste					
50. Estou cheio/a de ideias					

Appendix V: Cognitive Flexibility Inventory (CFI; Dennis & Vander Wal, 2010) [English]

Cognitive Flexibility Inventory (CFI; Dennis & Vander Wal, 2010)

Please use the scale below to indicate the extent to which you agree or disagree with the following statements.	Strongly Disagree	Mostly Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Mostly Agree	Strongly Agree
	1	2	3	4	5	6	7
1. I am good at “sizing up” situations							
2. I have a hard time making decisions when faced with difficult situations							
3. I consider multiple options before making a decision							
4. When I encounter difficult situations, I feel like I am losing control							
5. I like to look at difficult situations from many different angles							
6. I seek additional information not immediately available before attributing causes to behaviour							
7. When encountering difficult situations, I become so stressed that I cannot think of a way to resolve the situation							
8. I try to think about things from another person’s point of view							
9. I find it troublesome that there are so many different ways to deal with difficult situations							
10. I am good at putting myself in others’ shoes							
11. When I encounter difficult situations, I just don’t know what to do							
12. It is important to look at difficult situations from many angles							
13. When in difficult situations, I consider multiple options before deciding how to behave							
14. I often look at a situation from different view-points							

15. I am capable of overcoming the difficulties in life that I face							
16. I consider all the available facts and information when attributing causes to behaviour							
17. I feel I have no power to change things in difficult situations							
18. When I encounter difficult situations, I stop and try to think of several ways to resolve it							
19. I can think of more than one way to resolve a difficult situation I'm confronted with							
20. I consider multiple options before responding to difficult situations							

Appendix W: Cognitive Flexibility Inventory (CFI; Dennis & Vander Wal, 2010; Soares & Damasceno Correia, 2015) [Portuguese]

Cognitive Flexibility Inventory (Soares & Damasceno Correia, 2015)

Por favor use a escala abaixo para indicar até que ponto concorda ou discorda com as seguintes afirmações.	Discordo Totalmente	Discordo Muito	Discordo Pouco	Não Discordo e nem Concordo	Concordo Pouco	Concordo Muito	Concordo Totalmente
	1	2	3	4	5	6	7
1. Sou bom(a) a avaliar situações							
2. Tenho dificuldades em tomar decisões quando confrontado/a com situações difíceis							
3. Considero várias opções antes de tomar uma decisão							
4. Quando encontro situações difíceis, sinto que começo a perder o controlo							
5. Gosto de olhar para as situações difíceis a partir de diferentes ângulos							
6. Procuro informações adicionais que não estão imediatamente disponíveis antes de atribuir causas aos comportamentos							
7. Quando me deparo com situações difíceis, fico tão stressado/a que não consigo pensar em maneiras de resolver a situação							
8. Tento pensar nas coisas sob o ponto de vista de outra pessoa							
9. Acho perturbador que existam tantas maneiras diferentes para lidar com situações difíceis							
10. Sou bom(a) a colocar-me na posição dos outros							
11. Quando encontro situações difíceis, não sei o que fazer							
12. É importante olhar para situações difíceis a partir de vários ângulos							

13. Quando me deparo com situações difíceis, considero múltiplas opções antes de decidir como me comportar							
14. Muitas vezes, olho para uma situação de diferentes pontos de vista							
15. Sou capaz de superar as dificuldades que enfrento na vida							
16. Considero todos os factos e informações disponíveis ao atribuir causas aos comportamentos							
17. Sinto que não tenho poder para mudar as coisas em situações difíceis							
18. Quando encontro situações difíceis, paro e penso em várias maneiras de resolvê-las							
19. Consigo pensar em mais do que uma maneira de resolver uma situação difícil com a qual sou confrontado/a							
20. Considero várias opções antes de responder a situações difíceis							

Appendix X: Deception Inventory (DI; Cajada & Bishopp, 2016) [English]

Deception Inventory (Cajada & Bishopp, 2016)

Please use the scale below to indicate the extent to which you agree or disagree with the following statements.	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1. I consider myself a good liar					
2. I do not feel bad when I tell a lie					
3. I hide my emotions well					
4. I feel guilty if I deceive someone					
5. I get anxious when I tell a lie					
6. I am not affected by other people's pain					
7. I am good at manipulating other people					
8. I usually get what I want					
9. I can be callous at times					
10. Some films make me feel emotional					
11. I always tell the truth					
12. I sometimes cheat at games					
13. I am easily bored					
14. I sometimes act without thinking					
15. I like to drive a car fast					
16. I don't believe in Love					
17. I am honest with myself					
18. The ends justify the means					
19. I am good at acting in a role					
20. I am good at thinking on my feet					

Appendix Y: Deception Inventory (DI; Cajada, 2017; Cajada & Bishopp, 2016) [Portuguese]

Deception Inventory (Cajada, 2017)

Por favor use a escala abaixo para indicar até que ponto concorda ou discorda com as seguintes afirmações.	Discordo Totalmente	Discordo	Nem Discordo e nem Concorde	Concorde	Concorde Totalmente
1. Considero-me um(a) bom(a) mentiroso/a					
2. Não me sinto mal quando digo uma mentira					
3. Escondo bem as minhas emoções					
4. Sinto-me culpado/a se engano alguém					
5. Fico ansioso/a quando digo uma mentira					
6. Não fico afetado/a pela dor das outras pessoas					
7. Sou bom(a) a manipular outras pessoas					
8. Normalmente consigo o que quero					
9. Posso ser insensível às vezes					
10. Alguns filmes emocionam-me					
11. Digo sempre a verdade					
12. Às vezes faço batota quando jogo					
13. Aborreço-me facilmente					
14. Às vezes atuo sem pensar					
15. Gosto de acelerar ao conduzir					
16. Não acredito no Amor					
17. Sou honesto/a comigo próprio/a					
18. Os fins justificam os meios					
19. Sou bom(a) a representar					
20. Sou bom(a) a pensar por mim próprio/a					

Appendix Z: Interview Schedule [English]

Interview Schedule

The purpose of this study is to understand how you perceive deception, coping strategies and secrecy.

There are no right or wrong answers we are just seeking to know your opinion, so please feel free to say what you think.

1. I understand that discretion is critical in a range of security roles. Have you ever had to keep secrets in your line of work (e.g., from an offender in custody)? How do you deal with this? Are there any circumstances under which you had to tell a secret?
2. Due to the nature of police work, do you also need to keep secrets from those close to you? What pressures do you feel in regards to keeping secrets? How does this make you feel? Does this ever put pressure on your relationships?
3. Are there any particular strategies that you use to help you cope with keeping secrets? What personal characteristics do you feel you have that may help you keep secrets?
4. Are there any specific factors that influence your ability of keeping a secret in your line of work? Which ones?
5. How do you find the experience of being in undercover operations? (Prompts: action, thinking about it, feelings)
6. What strategies do you use that help you to maintain your cover? (Prompts – (e.g., memorising the story; thinking of different topics; do you use aspects of your real life like hobbies?; how do you cope with the stress, or maintain your cool under pressure?; Have you ever been caught out?))
7. What kind of strategies do you use to deceive others? (Prompts – how do you get people to believe you are who you say you are; what kind of things might you do to make yourself look or sound credible; do you change the way you speak or dress?; are you a quick thinker?)
8. Do you think you are able to deceive others effectively? Why?
9. What kind of support is available to you, to help you cope in situations where you are undercover? Have you ever felt lost in your other identity? Is there psychological support?
10. Is there anything that the services could do, to help improving your well-being and cope

better in these operations? (Prompts – the provision of supervision?; the provision of training?)

Thank you for your participation in this interview. Is there anything further on this subject that you would like to add, or do you have any questions that you would like to ask?

Appendix AA: Interview Schedule [Portuguese]

Roteiro de Entrevista

O objetivo deste estudo é compreender como entende a mentira, as estratégias de *coping* e o secretismo. Não há respostas certas ou erradas, estamos apenas interessados em saber a sua opinião, como tal sinta-se à vontade para dizer o que pensa.

1. Compreendo que a discrição é um fator crítico numa variedade de ofícios dos órgãos de segurança pública. Já alguma vez teve de manter segredos (dever de sigilo, não revelar o modo como efetuou o seguimento ou vigilância) na sua linha de trabalho (por exemplo, de um ofensor sob custódia)? Como é que lida com isso? Existem circunstâncias sob as quais foi forçado(a) a revelar um segredo?
2. Devido à natureza do trabalho de investigação criminal, também precisa de manter segredos de pessoas próximas de si? Que pressões sente em relação a manter segredos? Como é que isto o/a faz sentir? Isto alguma vez causou (ou causa) tensão nos seus relacionamentos pessoais?
3. Existem algumas estratégias específicas que use para o/a ajudar a lidar com a necessidade de manter segredos? Que tipo de características pessoais acha que possui que o/a ajudam a manter segredos?
4. Existem fatores específicos que influenciam a sua capacidade de manter um segredo na sua linha de trabalho? Quais?
5. O que acha da experiência de participar em operações de seguimento e vigilância e de pesquisa de notícias/obtenção de informações?
6. Que estratégias usa para o/a ajudar a manter a sua história de cobertura durante uma operação de seguimento e vigilância e de pesquisa de notícias/obtenção de informações quando há o risco de ter de interagir com os suspeitos/alvos ou outras pessoas? (Dicas – por exemplo, memorizar a história; pensar em tópicos diferentes; usar aspectos da sua vida real como passatempos/hobbies?; como é que lida com o stress, ou mantém a calma sob pressão?; já alguma vez foi detetado por um suspeito/ alvo no decurso dum seguimento ou vigilância?)
7. Que tipo de estratégias usa para mentir/manter a história de cobertura? (Dicas – como é que convence os suspeitos/alvos sob investigação ou as fontes de informação (informadores) a acreditarem que é quem diz ser?; que tipo de coisas é que poderá fazer para parecer ou soar credível?; alguma vez muda a maneira de se vestir ou de falar?; acha que pensa rápido e se adapta a situações imprevistas?)

8. Acha que é capaz de mentir/enganar os outros de forma eficaz? Porquê?
9. Que tipo de apoio está disponível para si, para o/a ajudar a lidar com operações de seguimento e vigilância e de pesquisa de notícias/obtenção de informações? Já alguma vez se sentiu perdido(a) na sua identidade? Existe apoio psicológico disponível?
10. Existe alguma coisa que os serviços públicos possam fazer, para o/a ajudar a melhorar o seu bem-estar e lidar melhor com operações de investigação criminal? (Dicas – providenciar supervisão?; providenciar formação?)

Muito obrigada pela sua participação nesta entrevista. Tem mais alguma coisa sobre este assunto que gostaria de dizer ou alguma pergunta que gostaria de fazer?

Appendix AB: Further Ethical Considerations

Participation in the research was entirely voluntary and on the participant information sheet of both the questionnaires and the interview as well as the consent form, participants were advised that they could withdraw their data by notifying the researcher at the University (see Appendices J-O). Data could be withdrawn during the data collection stage and up to four weeks after the data collection had finished. If a participant wished to withdraw their data, the researcher would remove the data. Prior to commencing the interview, all participants were debriefed about the aim of the interview (see Materials and Measures section of the methodology). Participants were not given any compensation or incentive for participating. No participants dropped out of this study or withdrew their consent.

The main ethical concern in the study was around the potential for discomfort/distress as a result of answering the questionnaire and interview questions. However, it was considered to be unlikely that participants would find participation to be distressing given that the questionnaires and the interviews were looking at their perceptions in meeting their job demands rather than any invasive/sensitive questions. There was a small risk that questions may have triggered a negative response from participants when exploring areas such as stress and deception, therefore, it was made clear to participants that they could refuse to answer specific questions if they did not feel comfortable doing so. In addition, a plan was put in place for participants to be directed to the psychology services of their organisation following the study if they felt the need for support, further to this they were given the option of discussing issues/concerns with the researcher and/or her supervisors.

The researcher had prior experience of research and collecting data, therefore had the necessary skills when engaging with participants making it unlikely for her to experience

psychological harm during the conduction of the study. However, she had the option of discussing any concerns with her supervisors at any point if the need arose.

The data (i.e., completed questionnaires and the transcripts of the interviews) were saved electronically and on an encrypted USB device that could only be accessed by the researcher and the researcher's supervisors. Only the researcher had access to the recording of the interviews. All participants were allocated a unique identification (ID) number which was used instead of their name during the data collection stages. Implementation of ID numbers was considered necessary not only to handle the large amounts of data collected, but also in case the participants wished to withdraw from the study. Participants were made fully aware of the above prior to providing their consent to participate in the study.

All data will be destroyed 10 years after the research has been completed in line with the University of Birmingham code of Practice for Research and to allow for publication if appropriate. This will be done by deleting all the information from the USB device and from the records that the researcher kept.

Appendix AC: Reflections

Reflections

It is good practice when undertaking research, particularly qualitative, for the researcher to reflect on their experiences, theoretical orientation, personal expectations and assumptions and how these can impact upon the research process (Elliott, Fischer, & Rennie, 1999).

The reflective process began in the early stages of the research due to the difficulties in getting access to the population for the study. It had been anticipated that it was going to take some form of special authorisation for the researcher to access undercover operatives. Due to the challenges, at the time, in gaining authorisation within the UK and the interest/receptiveness of a specific police force, the study was conducted in Portugal.

The command of the police force in Portugal was very interested in the study and, as such, encouraged its operatives to engage in the research. There was some level of resistance from a minority of participants due to their difficulties in understanding how they could speak about their roles, when this is not usually allowed, in particular with an outsider. In addition, a couple of participants expressed their wish, but disbelief, that this research would have any real implication in their future practice. The researcher tried to overcome these potential biases by explaining to the participants the importance of their openness in describing their perceptions as they were the true experts on the subject, as well as the interest of the police command in understanding their experiences and potentially making meaningful changes to practice.

There was also a concern that participants would be resistant to discussing things that were not going well within their roles due to a sense of distrust in the confidentiality of the interviews. The researcher wanted to ensure they would speak freely about any issues or

difficulties they had encountered and went through a consent form prior to the commencement of the interviews in order to explain to participants that their individual answers would not be linked back to them when relaying the results in the thesis. The researcher also explained the results would be shared with all those interested and not just with the command or higher ranks. In the interview, the researcher was confident that the majority of participants were able to speak openly and honestly. This was reflected in the mixture of views regarding the institution.

Finally, in spite of the above-mentioned potential concern regarding the researcher being an outsider to the organisation, this appeared to have been viewed as beneficial for the research process, as a couple of participants mentioned they would feel more comfortable in talking to someone independent from the institution.

Appendix AD: Correlations Matrix

		Age	Length experience in Police Force	Current or previous undercover/ plainclothes experience	Resilience Scale	Alternatives Subscale	Control Subscale	Surgency Subscale	Agreeable ness Subscale	Conscientious ness Subscale	Emotional Stability Subscale	Intellect Subscale	Deception Inventory
Age	Pearson Correlation	1	.903**	.586**	-.063	-.030	-.011	.040	-.007	.120	.147	-.067	-.080
	Sig. (2- tailed)		.000	.000	.524	.777	.920	.695	.945	.238	.148	.510	.450
	N	111	111	59	105	93	93	98	98	98	98	98	91
Length experience in Police Force	Pearson Correlation	.903**	1	.597**	.007	.009	.035	.040	.039	.114	.143	-.001	-.090
	Sig. (2- tailed)	.000		.000	.941	.932	.736	.693	.701	.260	.156	.992	.393
	N	111	113	61	107	95	95	100	100	100	100	100	93
Current or previous undercover/ plainclothes experience	Pearson Correlation	.586**	.597**	1	.163	.120	.084	.282*	-.072	.211	.305*	.119	.027
	Sig. (2- tailed)	.000	.000		.220	.403	.560	.041	.611	.130	.027	.397	.849
	N	59	61	61	58	51	51	53	53	53	53	53	51
Resilience Scale	Pearson Correlation	-.063	.007	.163	1	.371**	.327**	.212*	.252*	.409**	.247*	.332**	.063

	Sig. (2-tailed)	.524	.941	.220		.000	.001	.035	.011	.000	.013	.001	.550
	N	105	107	58	107	95	95	100	100	100	100	100	93
Alternatives Subscale	Pearson Correlation	-.030	.009	.120	.371**	1	.618**	.200	.512**	.545**	.270**	.590**	-,195
	Sig. (2-tailed)	.777	.932	.403	.000		.000	.052	.000	.000	.008	.000	.061
	N	93	95	51	95	95	95	95	95	95	95	95	93
Control Subscale	Pearson Correlation	-.011	.035	.084	.327**	.618**	1	.207*	.411**	.499**	.460**	.501**	-,154
	Sig. (2-tailed)	.920	.736	.560	.001	.000		.044	.000	.000	.000	.000	.142
	N	93	95	51	95	95	95	95	95	95	95	95	93
Surgency Subscale	Pearson Correlation	.040	.040	.282*	.212*	.200	.207*	1	.315**	.191	.357**	.377**	-,185
	Sig. (2-tailed)	.695	.693	.041	.035	.052	.044		.001	.057	.000	.000	.075
	N	98	100	53	100	95	95	100	100	100	100	100	93
Agreeableness Subscale	Pearson Correlation	-.007	.039	-.072	.252*	.512**	.411**	.315**	1	.472**	.255*	.582**	-,257*
	Sig. (2-tailed)	.945	.701	.611	.011	.000	.000	.001		.000	.010	.000	.013
	N	98	100	53	100	95	95	100	100	100	100	100	93
Conscientiousness Subscale	Pearson Correlation	.120	.114	.211	.409**	.545**	.499**	.191	.472**	1	.439**	.470**	-,223*

	Sig. (2-tailed)	.238	.260	.130	.000	.000	.000	.057	.000		.000	.000	.032
	N	98	100	53	100	95	95	100	100	100	100	100	93
Emotional Stability Subscale	Pearson Correlation	.147	.143	.305*	.247*	.270**	.460**	.357**	.255*	.439**	1	.204*	-,134
	Sig. (2-tailed)	.148	.156	.027	.013	.008	.000	.000	.010	.000		.042	.202
	N	98	100	53	100	95	95	100	100	100	100	100	93
Intellect Subscale	Pearson Correlation	-.067	-.001	.119	.332**	.590**	.501**	.377**	.582**	.470**	.204*	1	-,106
	Sig. (2-tailed)	.510	.992	.397	.001	.000	.000	.000	.000	.000	.042		.312
	N	98	100	53	100	95	95	100	100	100	100	100	93
Deception Inventory	Pearson Correlation	-,080	-,090	,027	,063	-,195	-,154	-,185	-,257*	-,223*	-,134	-,106	1
	Sig. (2-tailed)	,450	,393	,849	,550	,061	,142	,075	,013	,032	,202	,312	
	N	91	93	51	93	93	93	93	93	93	93	93	93

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

Appendix AE: Themes with Supporting Quotes

Theme	Sub-Theme	Sub-Sub-Theme
Secrecy	At work	All in a day's work
Quotes		
<p>#001 Normal and I enjoy that experience (P001, p. 2)</p> <p>#002 ...I think that is something essential to our job. There are certain things, certain techniques that we avoid revealing even in judgment hearings... I see this naturally. It's my job. (P002, p. 2)</p> <p>#003 ...I think it's inherent to our role... ...you have to keep this secret, this confidentiality of things because the curiosity of others can sometimes ruin a job... (P003, p. 2)</p> <p>#005 No pressure; inside our team we talk about everything there is to talk about... if there is no communication between all, it does not work, the results later do not appear and things do not flow. (P005, p. 2)</p> <p>#006 Quietly, it's my job, I do it daily without any stress. I can stand beside a colleague and have him/her under surveillance, for example. (P006, p. 2)</p> <p>#007 ...sometimes they [colleagues from other departments] ask certain questions that I know I cannot answer... If I cannot avoid the question, I say I cannot discuss. (P007, p. 3)</p> <p>#008 ...it becomes normal. (P008, p. 2)</p> <p>#009 ...we were "formatted" for it, it's a natural thing, it does not require any extra effort. (P009, p. 2)</p> <p>#011 ...we have to preserve the identity and we have to preserve some things within the investigations... (P011, p. 2) We always try to collect as much information as possible and we do not give any away. (P011, p. 3)</p> <p>#012 Even in Court... most Judges would see that we could not reveal certain things... defended us and immediately prohibited the question from lawyers. (P012, p. 2)</p> <p>#013 The way we deal with day-to-day life. We are not true for all. In this case, we do not tell everything to everyone, even at home we do not have the habit of coming home and telling everything we saw on the street, or everything we did at work... We have a team and in this team we all benefit from being honest... Outside of our team, our safety comes first. (P013, p. 2)</p> <p>#014 We often use the policy of the "need to know"... I deal well and the people who are included in this environment get used to dealing with it.</p>		

<p>...it is a matter of “if you do not need to know, you do not know”. And it does not happen only in a top-down structure, the opposite also happens, many times... It's not a lack of trust, it's just a guarantee that the service is done in an impartial way. (P014, p. 2)</p> <p>#015 Well, as I was put here right after my training... it ended up being a very natural process. (P015, p. 2)</p> <p>#016 Deal well. (P016, p. 2)</p> <p>...here we act very much for and according to the principle of “need to know”... there are certain situations in which it is important to know certain information; there are others where there is no need. (P016, p. 3)</p> <p>#017 As a rule, most of the activities carried out are kept secret.</p> <p>It's my job... it's easy. (P017, p. 2)</p> <p>#018 I think it's perfectly normal and natural. (P018, p. 2)</p> <p>#019 As long as I arrive at night and know that I did my job the best I know and the best I can, it is what matters.</p> <p>It is actually the nature of the work, regardless of the costs that this may have on a personal level. (P019, p. 2)</p> <p>#022 Naturally... in everything we do in life there are secrets that should be kept and not to be spoken. (P022, p. 2)</p> <p>#023 ...the whole line of work is based on secrecy...</p> <p>The policy of secrecy must exist due to everything I do, plus being under the secret of justice. (P023, p. 2)</p> <p>There is paper secrecy. There is that secrecy that I'm on the street. There is the secrecy of the service. There is the secrecy of the Court. Meaning, different levels of accreditation... (P023, p. 3)</p> <p>#024 With regards to family I can deal well, it's more of an omission; with the secret of justice I can deal even better, it's not even a question to discuss work. (P024, p. 2)</p> <p>#025 The sharing of information internally, within the group to which we belong, is always necessary and precious...</p> <p>...we do not comment with a team what we are doing with another. (P025, p. 2)</p>		
Secrecy	At work	Complicated
Quotes		
<p>#012 It's very complicated... because we keep our own secrets, and we cannot externalise them with anyone and sometimes they are very complicated things. (P012, p. 2)</p> <p>#019 It's a two-faced coin... we have to do a “double game”... so it's a bit complicated. (P019, p. 2)</p> <p>#020 It's not easy... we end up distrusting everything and everyone, always. It is a safeguard of criminal investigation because unfortunately we do not really know the people around us. (P020, p. 2)</p>		
Secrecy	At home	An easy task?
Quotes		
#001 I always try to keep one thing separated from the other.		

When people are familiar or closer to me it's a little harder, but my profession demands it.

People in general do not cause pressure also because I do not say much of what I do in relation to my professional life... (P001, p. 2)

#002 ...a person being married or having a life in common... you have to keep enough information so that the person understands what it is that we do. However, what we are doing specifically at that time should be that the less they know, the better. For their own good... (P002, p. 2)

#003 I do not feel any pressure, but sometimes there are friends (outside of work) who ask some questions, but it is the curiosity of people and you have to hide... (P003, p. 2)

...we have to separate friendships and our job... It is a crime for us to disclose information that is in the secret of justice. (P003, p. 3)

#005 [in family life] we know how to separate the 'wheat from the chaff' and things flow normally. (P005, p. 3)

#006 I do not speak openly of what is happening... peaceful, the family knows it's like this. (P006, p. 2)

#007 I do not feel any pressure, I know there are things you can talk about and other things you cannot talk about. You have to keep secrets. It's a natural thing of the profession. (P007, p. 2)

#008 I need to [keep secrets], this is the most fundamental thing.

Exactly, it exists [flexibility from the family]. (P008, p. 2)

#009 I do not feel pressure; my friends know that what is my job is mine... it does not have any kind of collision between personal life and work life. (P009, p. 2)

#010 I try to separate... [family] knows what I currently do, but I don't give details of what I do... it's the nature of the job. (P010, p. 2)

#011 I can separate the situation well. Work is work and not involving the family in what I do or what I am doing...

I think I have a way of being, within the investigation, very natural and the fruits of it appear naturally.

I do not comment, I do not speak, so things become natural and the situation is solved in itself... it doesn't affect me at all. (P011, p. 2)

#013 If we are here and we continue here, we know that everything else will always be a bit more complicated, but also, if we are here it is because we know how to manage complicated. And you have to know how to manage. Knowing how to manage feelings, knowing how to manage reactions, not creating conflicts, knowing that the other person does not realise what we do. (P013, p. 3)

#014 ...family... get used to not asking certain questions because either I do not respond or respond in an evasive way, and they already know... (P014, p. 2)

It is a normal adaptation for those who work in this type of service. You have to lie. We lie to outsiders, we lie to insiders. It is part of the professional performance. (P014, p. 3).

#015 ...is a very natural process, so it also turned out to be a process of acculturation of those who are closer to me, since from the beginning I always had to keep some secrecy about my work, the people close to me also came to realise this and also took preventive measures to not even put me in a position where I would have to lie to them... (P015, p. 2)

#016 There is a lot of curiosity, especially from those closer to us... but from the moment I said that I should not speak, I could not speak, I would not want to speak, there was also a sensitivity from the other side, and there were automatically no questions asked; there was no longer any interest. (P016, p. 3)

#017 There are no comments with the family. There is no problem. (P017, p. 2)

#018 The information is always more rudimentary... does not generate any type of conflict. (P018, p. 2)

#019 ...we have to vent but with our colleagues, because to get home and talk about work I am jeopardising that person; then the person is aware of things that s/he should not and that can harm his/her life... (P019, p. 2)

#020 ...some pressure... to know how to manage a lie and unavailability to have a drink with friends or go out with the girlfriend. I have to resort to lies in order to manage this situation. (P020, p. 2)

#022 It's a matter of not talking much about it. If I come home I live the social and family life. I do not have to take the problems of my work to my home. I distinguish this well... It's the nature of the job. (P022, p. 2)

#023 I don't feel a lot of pressures... The fact that we should not share everything may or may not be accepted by the other person... if the other part is not sympathetic, yes, we have problems and the divorce rate is very large. (P023, p. 4)

In my particular case, is almost like that saying of "you already knew me this way"... even in my circle of friends and family, they never had a very present person in me... the idea is that when you are [present], you are at 100%.

It's the nature of the job... much like all in life... (P023, p. 5)

#024 I'd rather omit certain matters to protect them [family].

I asked to come [to criminal investigation] because at a family level was when I thought it was the most opportune, because the family life is stable. I have a pretty good structure. (P024, p. 2)

Secrecy	At home	Strain on relationships
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Quotes

#002 Professionally I think I face it naturally, but in my day-to-day life I would sometimes feel the need to explain something... but I cannot do it...

I had a task and disappeared for a while... no one [family] ever knew where I was... that caused some problems at a personal level.

...is the constant changing of schedules in what we do; the unpredictability of the task; the ringing of the telephone and having to leave at night... all this may cause some strangeness. (P002, p. 3)

#004 Sometimes it can be tricky, because there can always be a factor of distrust from the other person... over time you learn how to deal with it... (P004, p. 2)

#012 Yes, yes, it always generates [tension]. It's not easy. It's complicated. Very complicated. I'm very discreet. (P012, p. 3)

#013 It's always complicated, especially in affective relationships, because 'who are you with?', 'what are you doing?', And we have to respond: 'I'll explain later,' and the 'I'll explain later' never comes. The people around us know the bare minimum of what we do. Never know the reality... and people either accept it, or not...

My family knows that, for my safety and especially for their safety, it's better not to ask me questions. (P013, p. 2)

[generated tensions] Yes... but we are in this profession because we want to. (P013, p. 3)

#019 [generated tensions] Yes, several times, that's why my marital status is divorced. For being away from home a lot, for not having schedules... for not being able to tell where I'm going or what I'm doing... I try to give some information, but it is abstract... (P019, p. 3)

#020 [generated tensions] Yes, yes. Yes, anxiety ... sometimes stress, it leads us to a bit of detachment from being with someone... sometimes it's not easy. My close friends know that work is off limits. (P020, p. 2)

#021 The pressure is considerable, because sometimes a person wants to vent and cannot... We only vent amongst ourselves. (P021, p. 2)

Sometimes it generates tensions, because it is good to vent... sometimes a person gets tenser. (P021, p. 3)

Secrecy

Personal characteristics

Quotes

#001 In women it is easier, men have haircut that is characteristic of the police. Women go quite unnoticed in this situation. The more discreet, the more 'normal' they are, the more unnoticed they pass. (P001, p. 3)

#002 I consider myself discreet. It's essential; to be as discreet as possible, both professionally and personally. (P002, p. 3)

#003 I'm calm, and I'm discreet. (P003, p. 3)

#004 ...some [people] already have these characteristics and there are people who are able to adapt themselves. (P004, p. 3)

#005 I am a little closed, I'm a little guarded shall we say... I think maybe the main weapon here in the professional part is this: the discretion, being guarded, selective, I think is essential.

I like to go very unnoticed. (P005, p. 3)

#006 Those who do not adapt fall out, naturally. (P006, p. 3)

#007 I'm a more or less reserved person. (P007, p. 3)

#010 I'm a calm person, I do not meddle into anyone's life, I do not like to comment; my life is enough for me, therefore, it does not bother me; I'm a private person. (P010, p. 3)

#011 We become more aware, we become more sensible. (P011, p. 3)

#012 Life's experience, being a professional, it's something natural. (P012, p. 4)

#013 Being able to interpret what the other person is telling us... (P013, p. 3)

#014 You acquire over time [characteristics]. (P014, p. 3)

<p>#015 ...personalities that tend to be more reserved, help. Aspects of your life end up absorbing more naturally this whole process of acculturation of reserve and secrecy that is associated with our mission... (P015, p. 3)</p> <p>#016 [being reserved] yes, absolutely. (P016, p. 4)</p> <p>#019 I think it's enough to be honest, humble and correct. (P019, p. 4)</p> <p>#023 There are people who do not know how to be quiet, do they? There is no chance then. (P023, p. 6)</p> <p>You need to have a lot of patience, self-control... I, personally, do not speak. (P023, p. 7)</p>		
Work satisfaction	Pros and Cons	Adrenaline/absence of monotony
Quotes		
<p>#001 Love it. I really like what I do... it's always different. (P001, p. 3)</p> <p>#002 Continues to make the adrenaline run in the veins, that's why I'm still here. ...the unknown, leaving routine, the fact that it is always something new... our role within society is to contribute a little bit to have a better society. (P002, p. 4)</p> <p>#003 It's good. I'm here because I like it and could be elsewhere. (P003, p. 4)</p> <p>#004 I like my job. I think it is interesting, it is different. (P004, p. 3)</p> <p>#005 If you're not here due to enjoying it, it's not worth it... it is stimulating, today is one thing, tomorrow we have to go find out another. (P005, p. 4)</p> <p>#009 ...it's good, it's a job that is rewarding in itself when you get results. (P009, p. 3)</p> <p>#010 ...very interesting... it is always good to try to do something to improve society, to make our contribution. (P010, p. 3)</p> <p>#011 ...it's the best place I've been. We must be very attentive, all the time... there are always news. Every day is different. (P011, p. 4)</p> <p>#013 My job is excellent, it's the best job in the world. Adrenaline is addictive. (P013, p. 4)</p> <p>#015 ...it is a necessary work and it can boost the investigation activity by increasing its quality... it is one of the decisive factors that can dictate the success of an investigation. (P015, p. 4)</p> <p>#016 It is extremely interesting, no doubt... (P016, p. 5)</p> <p>#023 ...it is fundamental. It's spectacular for me... (P023, p. 10)</p> <p>#024 I'm at the top of the investigation... everything is overcome even in terms of work hours... (P024, p. 3)</p> <p>#025 I find my job exciting because we do not have to do the same thing every day. Each process, each surveillance is completely different... (P025, p. 3)</p>		
Work satisfaction	Pros and Cons	Lack of schedule structure and appreciation
Quotes		
<p>#002 [due to age and length of experience] I often think of finding something that is more predictable in terms of schedules. (P002, p. 4)</p>		

#004 The only thing that complicates it has to do with schedules, because it takes up a lot of our personal time. (P004, p. 3)

#005 [the lack of schedule structure] is detrimental to family life, of course, there is always someone who suffers... (P005, p. 4)

#016 ...it demands a lot from us... it is not a job that occurs under a set schedule/time.

Our job always works according to the target and due to this there is a great need for adaptation, which means that sometimes it is difficult to juggle the professional and personal life. (P016, p. 5)

#017 I think it is a type of service to do... at most for ten years... depending also on the family relationship. (P017, p. 3)

#018 ...you have to know how to deal with it. Because [for] many colleagues, out of this service, it is very gratifying to appear in the news, in the great services, while for us, if the work is well done, we appear absolutely nowhere. (P018, p. 4)

#019 I think it is a very rewarding job on a personal level, but sometimes it is unappreciated. (P019, p. 5)

...we are invisible, we are all of that... but then there is another part, we are not recognised by the work that we have done... we fall a bit into oblivion. (P019, p. 9)

#020 You have to really like it, have some curiosity, and availability, sometimes at a loss mainly for family. (P020, p. 3)

#021 It is strenuous. (P021, p. 3)

#023 ...it is extremely tiring, psychologically and physically. (P023, p. 10)

#024 ...we do not have that thing of saying that we were the ones who took that individual to Court, but we were certainly the ones who helped and that is enough for me... (P024, p. 4)

#025 [gratifying] on a personal level yes, but sometimes the work is unappreciated. (P025, p. 3)

Undercover tactics Adaptation to the environment

Quotes

#001 I try to act as natural as possible so that the person really believes that I am there without ulterior motives.

It depends on the situation, it depends on the location. Our cover story can vary and our way of being depends on where we are and the person concerned... we have to adapt to the situation and to the person [target]. (P001, p. 4)

#002 In Rome do as the Romans do. (P002, p. 6)

#003 ...in reality it always goes more unnoticed when there is a man and a woman [in the operation]. (P003, p. 4)

...acting naturally is the way to give credibility to the disguise. (P003, p. 5)

We have to deal well with the unforeseen because when we are tracking their movements there are things/situations appearing constantly that we were not expecting and we have to improvise.

...there are people who are nervous and soon show this nervousness and we have to try to stay there as normal as possible... (P003, p. 6)

#004 Sometimes, more the way of dressing, though one can also try to change a bit the accent in terms of speaking. (P004, p. 5)

#005 ...deal with the Spanish language, English too...

...clothing of course, adapt to the environment in which we are going to enter... do not wear very flashy clothes.
 We should not take anything that attracts attention... (P005, p. 7)

#006 We change the clothes, we try to adapt to the environment where we are inserted. (P006, p. 4)
 ...act as naturally as possible. (P006, p. 5)

#007 ...[act naturally] Yes, it's the best thing. The way of speaking also changes. The vocabulary must be different from one area to another. (P007, p. 5)

#009 ...adaptation to the environment, way to dress, way to speak, posture, all of this... We have to work impromptu with what we have. (P009, p. 4)

#011 I often change my beard, hair and clothing... We always find strategies and refuges. Just wear a double-sided coat, a backpack, a hat... adapt to the situation. (P011, p. 6)

#012 Always adapt to the environment. Then, be as natural as possible... (P012, p. 5)

#013 If there has to be a confrontation with a suspect, I try to enter into the environment, in this case, enter into his/her world. (P013, p. 4)
 Incarnate a character and keep it from the beginning to the end.
 ...we always try that the person who is watching us does not notice that we are not from there... our job is to be ghosts. We do not exist. (P013, p. 5)
 Wear the so-called neutral clothes. (P013, p. 6)

#014 Adapting the way of dressing, trying to know details of the suspect. (P014, p. 5)
 We think fast, we react quickly. But we also learn not to react. Often, not responding is the best reaction. (P014, p. 6)

#015 ...it is the art of being forgotten, often when we are in operational action, we need to suppress some features of our individuality to go as unnoticed as possible in a certain environment. (P015, p. 4)
 The situation naturally needs planning and a prior study... Changing the way of dressing is part of it, and the way of speaking also is.... it is necessary in some way for the staff working in this area to have this adaptability. (P015, p. 5)

#016 ...[strategies to maintain cover] personality traits that the person has to have and learning processes gained the more times there is field practice, the more situations we have, the better we will be... (P016, p. 5)
 There is always a prior planning before going to the field. A site and target study... (P016, p. 7)

#018 ...if I know where I'm going, I'll adjust the way I dress. It's trying to get involved as much as possible in the environment where I am. (P018, p. 5)

#019 I try to be as natural as possible, that is, more relaxed.
 [change]... the look, earrings, big beard, no beard, it depends, according to the location. (P019, p. 7)

#020 We always try to get disguises that do not raise great suspicions... it depends on the environment...

...part of my kit is to have another piece of clothing for situations [of possible] detection... (P020, p. 5)

#022 We can walk accompanied mainly by a feminine element... it gives us something more of being invisible, acting like a couple... (P022, p. 5)

I have already tracked movements in a suit and tie [as well as] shorts and flip-flops. In an improvised operation I take clothing adequate to the time [of the year].

We must be self-taught, in order to be able to enter into the tracking of movements and surveillances. (P022, p. 6)

#023 ...if I need to be something in a certain place, very well, but before I can be anything, I have to be the invisible person that is somewhere and does not bother anyone... better to spend [in a certain place] fifteen days or a month before... Reconnaissance, think, work hard. (P023, p. 13)

...when we have to go [to an operation] the important thing is to take as many precautions as possible, to study well [target and location], to say 'what is going to be normal there?'

...adapt... the way of speaking, the way of being, speak in English, have a different pronunciation... (P023, p. 20)

#025 I try to be as discreet as possible, [and] not to use props/accessories... (P025, p. 5)

Undercover tactics	Cover story versus improvisation
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Quotes

#001 ...we often have to really think about a cover story. If we have to interact with the person we are following, we may need to make up something on the spot for the person not to suspect anything... depending on what happens, we make up something. (P001, p. 3)

#002 ...when we go to a certain place, we follow the rule of undercover operations that we must take a cover story already prepared, not to be caught out. If it is a thing of the moment, then we use improvisation and the ability of each one to improvise. (P002, p. 4)

#003 ...in any situation in which we are confronted by the target or any other person [during an operation], we must have a cover story. (P003, p. 4)

#004 ... it is trying to convince myself that this story is true... always get a story that has a bit of truth.

It ends up being like an actor; an actor to play any part, has to enter the character; with us, it's the same thing. (P004, p. 4)

#005 ...sometimes it's improvisation because we do not know what s/he's going to ask. (P005, p. 4)

...experience [helps]; if you are a person with less years of experience you tremble there a little, you start to miss the words...

...when we go to investigate the person, we have to know what the person does, what is the behaviour of the person, what is his/her routine... (P005, p. 5)

#006 [Do you memorize stories?] No... if I have to chat with the target, I do the normal dialogue... (P006, p. 5)

#007 Depending on the situation, the cover story must be memorised. Before we go [to an operation], we must think of the reverse that can happen. As a principle we take a cover story... sometimes you have to improvise. (P007, p. 4)

#008 We avoid interacting with suspects, but sometimes it happens, either unintentionally or on purpose.
We do not have a story as such... when need be, improvise. (P008, p. 5)

#009 ...there is a cover story that is defined... and serves from beginning to end. [If needed] improvisation has to come out naturally (P009, p. 3)
The a priori cover story is valid, but it may cease to be if we are unaware of some aspect that the target knows. (P009, p. 4)

#010 ... it is to try to go through it normally, to be normal people. (P010, p. 3)
[all] improvised. I have not yet had the experience of having to have a memorised story. (P010, p. 4)

#011 The cover story is always the same, it is within reality.
And I use [a part of] reality in everything in order to divert everything that may come up. (P011, p. 4)

#012 I usually have a cover story, but it usually comes out naturally... (P012, p. 5)

#013 We must always have a cover story. Books say so, manuals teach us this... (P013, p. 4)
The whole cover story has to have room for improvisation. (P013, p. 5)

#014 Stories, above all, always try to meet half-truths and half-lies.
We try, in general, not to improvise. We always try to have a predefined story because sometimes it can go wrong otherwise. So not having things figured out, at the time, and being caught off guard... improvisation can go wrong. (P014, p. 5)

#015 ...when we start in this activity there must necessarily be a preparation because it is not something that comes [out] naturally, but with the field practice hours and accumulated experience, we get a different capacity for improvisation compared to when we started... in more critical situations it requires a more solid cover story, while others may possibly be resolved with some improvisation. (P015, p. 4)

#017 I do not have a fixed history that might be employed. (P017, p. 4)
It is a matter of habit... it comes out automatically. We do not address ourselves by our names, we always refer to things in a different way, in a language, in which, ultimately, we understand what we are saying, but whoever is outside thinks that it is something else that is being discussed. (P017, p. 5)

#018 Spontaneity. Spontaneous state, without any stress. And I act in a completely natural, normal and in a totally moulded way to the situation, the place, the type of people. 100% of improvisation. (P018, p. 4)

#019 ...if I go to a place in that area, I study what I can be there to do.
It is often on the basis of improvisation, but I do prepare for it... (P019, p. 5)

#020 For starters, doing the study of the environment where the surveillance will take place in order to always have a cover story. (P020, p. 3)
When we work as a team, we use several pre-planned excuses... (P020, p. 4)

#022 Sometimes it's improvisation, but I usually have a cover story... (P022, p. 5)

#023 I cannot adapt my cover story to the situation, what I need to do is to have one or more cover stories, ready for any situation... Because if you adapt it at the time, it will go wrong. (P023, p. 11)		
Improvisation goes wrong. (P023, p. 12)		
#025 Whatever needs to happen is based on improvisation... (P025, p. 4)		
Undercover tactics	Cover story versus improvisation	Hobbies/aspects of real life
Quotes		
#001 ...yes, it's even easier... it comes out more naturally. (P001, p. 4)		
#002 ...any of us have hobbies that we could use...		
We will not use a cover story on a subject we do not master. (P002, p. 5)		
#003 ...[there are] things used in our day-to-day life that we end up carrying to our work. (P003, p. 4)		
#006 [aspects of your real life/hobbies] Yes, I use. (P006, p. 5)		
#007 ...[aspects of your real life/hobbies] sometimes, but not many. (P007, p. 4)		
#009 ...[aspects of your real life/hobbies] To set the story yes... (P009, p. 3)		
#011 I use real life aspects, sometimes, if there is a need to make up a lie, to avoid anything... not to jeopardise myself, and not to jeopardise the family or anything like that. (P011, p. 5)		
#013 No. My personal life is not mixed with work. (P013, p. 5)		
#014 [hobbies] yes, yes. It helps a lot. (P014, p. 5)		
#017 Only if it is changed. Not things of my life. (P017, p. 4)		
#018 No, it's always pretty spontaneous. (P018, p. 4)		
#020 Yes, yes, even the themes of our day-to-day life, current issues... [in order to] not raise suspicions about what we might be doing there. (P020, p. 4)		
#022 The aspects of the past, because then I do not make mistakes... Usually my cover stories are about the past. (P022, p. 5)		
#023 No, even because it is not adequate[hobbies]. (P023, p. 12)		
Undercover tactics	Heightened awareness	
Quotes		
#001 I don't think so. (P001, p. 4)		
#002 It must have already happened for sure... Being caught out in surveillance and movement tracking is one of the easiest things to happen if we do not take proper care, or sometimes the targets are too alert. There are techniques that we ourselves use and they use which are counter surveillance techniques and this sometimes facilitates them to detect us. (P002, p. 5)		

In situations where we can be confronted, we use the rule of the cover story and improvisation. In a situation like this, the first step is to tell the team that we were detected and jump out, no longer appear again. Therefore, in a surveillance, whether it be us or a vehicle, if we suspect that we were detected, that element jumps out. (P002, p. 6)

#003 It has happened, usually we realise that we are detected. What we have to do at that point is to leave/abandon the track of movement and try to appear maybe with another car. (P003, p. 5)

#004 ...yes, several times... we have to have insight to see if we have been detected or not and to abandon that movement tracking. (P004, p. 5)

#006 Already a number of times... it has to happen because we are not invisible. We are investigators, we do surveillance, tracking of movements, but we are not invisible and other people are not stupid, so they sometimes detect us. The best is s/he sees me and cannot figure out if I'm a police officer or not. (P006, p. 5)

#007 Yes, I left the area... The clothes change, the beard grows, put on sunglasses, already the look is totally different... [change physical aspects] It usually changes more when a person is detected, other times to get into the environment [under investigation]. (P007, p. 4)

#008 I never had this situation because you can tell when, it also happens that they do the counter surveillance... but if we are detected the only thing to do is to get out of there. (P008, p. 6)

#012 I usually say that we are always detected... Because there are no miracles. (P012, p. 6)

#014 No, but my teams have already been, yes... exit the scene, leave. The car, the elements leave and do not reappear in that environment.

...often, we are not detected; we are left with the impression that we were detected and then we leave or make the team leave. Not to disturb the operation... (P014, p. 6)

#015 Naturally... let's say that being detected is part of or is a scenario that has to be predicted in our daily lives; we must always have damage control measures in this regard.

[what to do] Replacement of staff and, eventually, depending on what is at stake, leave the service at that time and resume it in a timely manner. (P015, p. 5)

#017 I think yes. Of course, I do. [how to deal with it?] Mainly do not endanger the remaining staff that is in operation. Preferably do not harm the process either. But first the security. (P017, p. 5)

#019 [what to do] It's to abandon and wait a week or two and get back at it. It's not worth insisting in order to avoid spoiling [the operation]... I may not have been detected, but the question remains... (P019, p. 7)

#020 Yes, probably [it has happened]... it is always the fear of jeopardising an investigation that may have been going on for months or years and everything the government has invested in the investigation... it is a situation that alone provokes in us that pressure of 'will we put the operation at risk'... (P020, p. 5)

#023 I was detected. Yes, pull away. Get out. And then there it is, either a very good cover story comes in or else, simply stop. You either archive the process or you stop that process for a few months, until the things calm down... (P023, p. 18)

Stress	Personalised coping strategies
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Quotes

#002 I try to keep myself as calm as possible because it is essential even for my safety and for the safety of whoever is with me, but sometimes it is not easy... dealing with people is not easy, and the stress of work sometimes translates a bit into personal relationships.

Bad days we all have... I get over it; we have to be able to say things on the spot, we can shout, we can annoy each other, but after a while it's okay. I can manage it internally. (P002, p. 5)

#004 When I smoked, I would light a cigarette in the aftermath of the situation; not anymore. (P004, p. 4)

#005 I can deal with it. Alone... talking it through with colleagues, family... (P005, p. 5)

#008 I'm more rushed; I've always been like this, but I have no problems.

It is good that one [colleague] is more fast-paced and another less hasty, consequently we balance each other. (P008, p. 5)

#010 I do sports, it's a way of dealing with stress... a way to control my emotions and keep my cool under pressure. (P010, p. 4)

#012 [Dealing with stress] Alone. I'm my own psychologist.

[Do you talk to yourself?] A lot. (P012, p. 5)

#013 [Dealing with stress] Like other people. Some days I sing, other days I dance, I don't know, it depends on the tiredness I have, and the stress... I'm pretty thoughtful. I do not enter into direct conflict, it is very rare. (P013, p. 5)

#014 ...try to relax in my spare time, try to unwind, spend quality time with the family. Practice [sports]. (P014, p. 5)

#016 No doubt this is a very stressful job, and sometimes a person comes home and keeps thinking about things, but this is where the family and the people who live with us come in. They make us think of other things and end up having a key role in our performance within the service. (P016, p. 6)

#019 After work I go to the gym to train or I will go for a run... I think it's essential to keep calm. (P019, p. 6)

#020 It has phases, it is not easy... it is exhausting, tiring and sometimes we need those moments of retreat, of pause, of disconnecting the record no matter how much you like what you do...

...[to deal with it] cinema, tours, a bit of everything. I mainly try to choose to do as a family, to compensate for times when I am not there and they are affected.

[Keep calm under pressure] Honestly no... we accumulate internally and eventually corrode ourselves internally and we do not demonstrate what we truly feel and we accumulate, accumulate, to the point at which 'the bubble will burst'... I have to close myself in my world, think twice or three times 'what do I intend to do, if this is what I want', and then I conclude that yes, it is, otherwise I would not be here... (P020, p. 4)

#022 I smoke cigarettes, unfortunately. (P022, p. 6)	
#023 I've had times when I smoked. (P023, p. 15)	
Keep calm. Full stop. With or without pressure. If you do not stay calm, it's over. It does not work. (P023, p. 17)	
#024 I try to tune out, the fact that I feel more stress forces me to be more focused which is a thing in my favour, I think... (P024, p. 5)	
#025 I've handled it better! We do not always handle it well, whoever it is, I've had good times, I've had bad times, right now it's levelled out. ...before, maybe, I did not think so much about the problems, but when you start to have problems, everything gets mixed. (P025, p. 4)	
Stress	Belief in improvement
Quotes	
#005 It's what I say: experience does everything; at the beginning it was complicated, then with the experience of life [improved]. (P005, p. 5)	
#009 I do not have much stress. [Strategy] only experience. (P009, p. 4)	
#012 I am a bit stormy, but life has taught me to be calm. (P012, p. 5)	
#015 ...the way to deal with it turns out to be accumulated experience... (P015, p. 4)	
...learning from those who are already here and who have already performed the same functions for a long time ends up giving us some skills in stress management... (P015, p. 5)	
Stress	It is normal
Quotes	
#003 ...it is mechanised already ... I am in a position of coordination and I have to try to keep calm. (P003, p. 5)	
#004 I can cope well with stress ... even in situations of risk... I think it was born with me... (P004, p. 4)	
#006 I cannot live without stress... I live better with that adrenaline always present.	
[Maintain calm under pressure] No, this does not exist... especially when it is the events in which we cannot afford to lose the target in those 5 minutes, that enter the "red line", but once those 5 minutes are up, everything returns to normal. (P006, p. 5)	
#007 I do not have stress. It's rare, very rare. I am a very calm person, I do not become easily nervous. (P007, p. 4)	
#011 I'm not very stressed. But I deal with it in a natural way. (P011, p. 5)	
#017 I think I do not suffer from stress, there are obviously situations that we get a little more adrenaline, or less adrenaline, but not in terms of stress. It is much more worrisome to manage staff, to ensure that everyone can adjust family life to service, and one thing does not harm the other, than the rest of the work itself. (P017, p. 4)	
#018 I deal with it pretty well. I think I'm completely anti-stress. (P018, p. 4)	
#021 It might be harder on the family. They know that we are in the service we are in. I think the family lives more in stress than we do. (P021, p. 4)	
#022 ...very normal. I do not have anything [special]... I am never very stressed. (P022, p. 6)	

#023 I do not think I have much stress. (P023, p. 15)		
Deception	Perceptions of deception	
Quotes		
#001 ...as soon as a person begins to lie, the person begins to tremble... (P001, p. 4)		
#002 ...in any lie, it is essential to keep a firm tone of voice and keep ourselves as calm as possible. Avoid nervousness. (P002, p. 6)		
#003 We have to try to lie and believe in what we are saying, and then that is the strategy; it is us lying and believing what we are saying, otherwise we cannot [succeed]. (P003, p. 5)		
#004 ...it must always have a bit of truth... (P004, p. 5)		
#009 I do not have this need [to lie]... [cover stories] They are designed in a way to be credible. (P009, p. 5)		
#010 I think so... professionally, if need be, I think I can do it naturally, I'll try to believe what I'm saying is true; if I convince myself, it's easier to persuade others. (P010, p. 4)		
#013 I think I'm a terrible liar; I think I'm very good at getting around the situation... perhaps without the person perceiving that we have changed the subject of conversation or that we have changed to something completely different. (P013, p. 6)		
#016 ...a person when in such situations does not think s/he is lying, because if s/he does, I think, it will give much more that image to the recipients. (P016, p. 7)		
#019 [good deceiver] Yes. As I tell you, there are many years in this life [doing this work] and we begin to gain a different experience and there are things that when we speak... sometimes even we believe it to be true, because we speak in a completely convincing way. (P019, p. 7)		
#020 Totally effective, no. Temporarily I think so. (P020, p. 5)		
#022 A target is looking at a person who is nervous... if you are shaking... the target realises [this] soon. (P022, p. 7)		
Deception	Good deceiver?	Underlying thought processes
Quotes		
#001 [able to deceive others effectively] I think so. Because it's really a necessity. (P001, p. 5)		
#002 Maybe this job gives us a bit of 'chameleon skin'... To adapt ourselves to certain circumstances or get out of certain situations. It ends up giving us some ability to lie... within the professional context. (P002, p. 7)		
#003 I do. We are a bit trained for this, for these kind of situations... It's part of our job. (P003, p. 6)		
#004 For the professional part yes. I can be a convincing liar, it has to do with the stories I come up with. (P004, p. 6)		
#005 In the context of the job yes, in that improvisation at the time I am able to get a strategy of deception to escape, not to be discovered. Now, on a day-to-day basis at work [with colleagues], no lies. (P005, p. 8)		
#006 For me, lying does not work, it does not, because I'm soon 'caught out'. (P006, p. 6)		

We have that basic lie of the 'I was just passing by', but what I'm saying is to put together the story with the lie, does not work for me. (P006, p. 7)

#007 I am. I'm a good storyteller. (P007, p. 5)

#011 Yes, I am. For my defence, for my protection I can easily make up an excuse... I know I can be realistic in a lie. (P011, p. 6)

#014 I like to think so. Although I do not help myself much from the exhaustive lie. (P014, p. 7)

#015 Yes, I have to have an ability to create in others a picture of myself. (P015, p. 6)

#017 I think so. It is not very difficult to come up with a story here... even in terms of family relationship, maybe it is a habit that is a bit strange, but I really like to make up things with the kids and then I say that I was joking... I think if it works with one side, it should work with the other one too. (P017, p. 6)

#018 If the others are the targets and if it is in a situation with completely unknown people, I think so. Because I have to adapt to that and spontaneity and [being] 'stress-free' leads me to be more credible. (P018, p. 5)

#021 I don't know, I'm not very good with lies. If I lie, I soon forget it [the lie]...

[at work] I wander between weather or television themes, because I cannot lie. (P021, p. 5)

#022 If it's a person I do not know, I can lie, if it's a person I know, I cannot lie. For the purpose of the work I have doubts... If I have to lie, I lie. (P022, p. 7)

#023 Yes. Everything I'm saying can be a lie. (P023, p. 21)

It's easy to lie. It's hard to lie at home when you love a person. It is difficult to lie to a child, it is difficult to lie to a wife, to a mother, but in terms of work, is easy. It's easy because it's part of the game... (P023, p. 22)

#025 ...if it is in terms of the job, in those meetings that I may have to obtain information, such cover stories, I think I have never looked bad in any situation; in terms of work colleagues and family, I am not one to lie... until now I saw no need [for it]. (P025, p. 5)

Support	Psychological support	Never used it
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Quotes

#001 ...I do not think we have needed this [so far]. (P001, p. 5)

#002 In terms of psychological [support], it is the ability of each one to manage their day-to-day.

...we have a number of mechanisms that I have, fortunately, never had to resort to, but there are colleagues who have already done so. (P002, p. 7)

#004 I have not needed it yet [psychological support], but I think so. (P004, p. 6)

#005 ...never used, never called, never had the need... (P005, p. 8)

#007 I never needed psychological support. (P007, p. 5)

#008 [Being lost in identity] So, there are assignments that we do where we get a bit overwhelmed, but then it returns to normality. (P008, p. 7)

...I went through very complicated situations and to this day there has never been anyone who said 'let's see that officer'. (P008, p. 8)

#009 [Exists] Yes, I think so, I never needed it, but it has the value it has. (P009, p. 5)

#010 I never needed them [psychologists], so I do not know if they are useful or not, I'm not sure what their functions are. (P010, p. 5)

#011 I have never had the need for this kind of support. (P011, p. 7)

#012 They never approached me. Because I've been out on the streets for twenty years and I'm tired of chasing after 'bad guys'. I've been through a lot. No one approached me [to offer support]. (P012, p. 8)

#014 [Being lost in identity] Yes, sometimes a person worries. Sometimes it is necessary to make an introspection, a self-analysis of our role in relation to others, within the team, within the Institution. [How do you deal with it?] Alongside the team. The search for information, training. The pursuit to evolve... (P014, p. 7)

#017 I have never had any experience with the [existing] psychological support. (P017, p. 8)

#018 It was something that was never used [psychological support]. (P018, p. 6)

#020 I never had [psychological] support, it was never volunteered.

...we deal daily with pressures, stress, tiredness, everything, and, maybe, sometimes we needed support to guide us... (P020, p. 6)

#022 ...I have not needed it. I had a colleague of mine, who recently worked here with us, that he had [support]... He went there several times, to Psychology. But I personally never needed it. (P022, p. 9)

#023 I have never used it. (P023, p. 26)

#024 I know it exists, but as I never needed it, I do not know who is leading it. (P024, p. 7)

#025 [Do you use some strategy like talking to people?] No. Maybe the evil is doing nothing, I've never done anything. (P025, p. 4)

[Exists] I think so, I never needed it. (P025, p. 6)

Support	Psychological support	Myths?
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Quotes

#001 Look, I do not know because I never needed it, but given my leadership, I think so, that there is support available. (P001, p. 5)

#002 ...we have these lines of support... There are support lines and there are services that are within the general scope of the Force. ...this situation that has been [occurring] in recent years with the suicides has triggered this a bit. Lines of support, flyers distributed around the headquarters that say 'suicide is not a solution, etc'. (P002, p. 7)

#003 Maybe there are a lot of people who will tell you no [psychological support], but if we need it and if there is someone who needs it and we come to that conclusion... we have mechanisms to trigger this kind of support within the Force. Psychological support within police force. (P003, p. 7)

#004 Especially with colleagues who have had problems for example with suicide attempts... in recent years there has been quite a lot within the security forces... (P004, p. 6)

...at the managerial level there is the Psychology department, with Psychologists if anyone needs any support. (P004, p. 7)

#005 I know that there's some line there; some phone number... (P005, p. 8)

#007 I know the command has some psychologists. (P007, p. 5)

#008 I think it exists... I'll be honest, that only exists when something serious appears on the news, because otherwise... (P008, p. 7)

Now, if something abnormal happens and it appears on TV, soon a Psychologist shows up, but [not to] those who are here every day and who deal with things... (P008, p. 8)

#009 Nowadays, there is a lot of talk about psychological support, but I understand that it is a last resort. (P009, p. 5)

#010 ...there is general support for officers. We have a support line, there are psychologists. (P010, p. 5)

#011 ...the Institution has Psychologists who are available to help in the event of difficulties. (P011, p. 7)

#012 It must exist... I know that, within work, there have been situations of colleagues of mine, more complicated things, where they had to go over [to the psychologists' office]... (P012, p. 8)

#013 Yes, there is a clinical centre in the Force where supposedly, they say, (I never needed it, good for me) there is a team available for the officers if necessary. (P013, p. 7)

#015 Yes, the Force has a Psychology service, which is in operation, so any officer who needs it can access the Psychology services.

I believe that it [the Psychology service] has preventive measures in certain types of phenomena linked to the psychology of the officers. As far as people with command and coordination functions are concerned, it is up to us to refer people who are likely to be experiencing some complicated psychological moment and try to ensure that they have the necessary support to resolve the situation. (P015, p. 7)

#017 There is a psychological support structure. But not for these situations. They are for extreme situations where the officer is the target of violence... their families... deaths. (P017, p. 7)

#018 I think so... it is a part that I completely do not know. I think that if any of us asks for psychological support, it will be given for sure. (P018, p. 6)

#019 I wanted to say yes, but I do not know... I'm not really aware of this. (P019, p. 8)

#021 I do not know. I've never seen Psychology... (P021, p. 6)

#022 I know it exists, here in the command, Psychology... (P022, p. 9)

#023 No, there is not. No, no. There is a lady who is a psychologist here, who has made some appointments with some people I've heard about it inside. But I've never seen anything like: 'this guy was unwell and now he's well, and it was the police force that took him from point A to point B'. No, no. (P023, p. 25)

...I did not see anyone being helped here in a truly meaningful way. And there are many cases that need a lot of help. Lots of help... (P023, p. 26)

Support	Psychological support	Should be proactive
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Quotes

#002 But so, there is nothing aimed at us [directly]. (P002, p. 7)

#008 ...to come here the Psychologist and not just stay for two minutes and leave, but to spend more time and listen to the people and to try to see what is happening – maybe it would be a good idea.

I should not have to go there myself... do not force the person to go there. (P008, p. 8)

#009 It does not exist on a day-to-day basis... ideally each team should have someone trained in that area [Psychology]. (P009, p. 5)

#010 ...[currently] we have to seek them out. (P010, p. 5)

#012 I do not have to need them, they have to approach me. (P012, p. 8)

#013 Usually suicide is spoken of in the security forces but it is the same as suicide outside [of the security forces]. No one ever asks for help before [committing] suicide. That is the problem. (P013, p. 7)

#014 ...there is psychological support available if we set out to find it. Now, to be here and someone [psychologist] come to see us, no. [Would it be a welcomed?] Yes, it would be. It might be used [then]. (P014, p. 7)

#020 There is [support], but I believe it is not effective... Because we have to look for them, they are not the ones who look for us, and when a police officer seeks clinical support, it may be too late.

[improve] psychological support, be more present and proactive in all units... because my well-being will be reflected in the results of the Institution. (P020, p. 6)

#023 Yes, I have an idea that if I want to look [for support], yes, the Institution has and makes it available... however, those who are not completely 'burnt out' will not look [for support], because they will look for problems. If it [the service] was proactive, that is, if it was not a search for help; if it was an available support, then perhaps we would have some more results. And since the police force has so many partnerships and protocols, it would not be a bad idea and it would be much more advantageous to be someone from the outside, who would come inside, under an agreement of professional confidentiality, and would come to support [the officers] inside. Because, I know of cases where they went to get help and automatically the life inside changed for those people. Clearly. The information is transferred. 'That guy is burnt, watch out for that guy'. (P023, p. 25)

#025 ...in fact, if I need [psychological support] I do not go here, I personally do not trust them; I'd rather go to a private hospital and have resorted to that in some situations because I trust them more. I think they are more professional in my idea; I think [psychologists in the Force] I would not say they are sloppy, but I do not trust them. I'd rather trust someone in a private hospital than in the police force. (P025, p. 6)

Support	Operational support	Good given financial constraints
Quotes		
<p>#001 ...we have a lot of material (operational) support. (P001, p. 5)</p> <p>#002 In terms of material [support] we have it... we are very well equipped. (P002, p. 7)</p> <p>#005 ...we cannot complain... we have had good conditions [to work]. (P005, p. 8)</p> <p>#011 ...within the normal parameters of the available funding, we have support. (P011, p. 7)</p> <p>I think it is within the normal parameters of what investigation is and what we work on. (P011, p. 8)</p> <p>#012 The phone is my own. But, generally, whenever I needed it, whenever I asked for it, they gave me support. (P012, p. 7)</p> <p>#013 ...every time there is a budget and something that is necessary and that we can afford [is bought], we have no reason to complain. (P013, p. 8)</p> <p>#014 The Force has been evolving in recent times... And it is getting equipped with technology... we have been supported. (P014, p. 7)</p> <p>Logistical support and support for the means of work... IT means, the technological means, the human resources, are never too much... however, we must have the perception that things are never enough. We always want more. We are in a positive situation [currently]. (P014, p. 8)</p> <p>#015 ...the existence of a perfectly efficient logistic and financial channel is in operation. (P015, p. 6)</p> <p>#018 We have the technological support that the security forces make available. (P018, p. 6)</p> <p>#019 Here we have many technical means, some human resources, but here things are well coordinated... (P019, p. 8)</p> <p>#021 [operational support] The normal... the television cameras... we have cameras, we have vehicles... (P021, p. 5)</p> <p>#022 [the command] they do not have many material resources, many human resources. And... within the possibilities I think they have given us... We have good things.</p> <p>...they do not give us more because they cannot. (P022, p. 8)</p> <p>#025 [we have] IT support, vehicle support, and electronic media like cameras, so logistical support. (P025, p. 6)</p>		
Support	Operational support	Need for more resources
Quotes		
<p>#001 ...more material, finding houses to do surveillances. (P001, p. 5)</p> <p>#003 At the technical level I think the Force should provide some upgrades. (P003, p. 6)</p> <p>#004 Human resources are never too much, and operational resources are never too much either. (P004, p. 7)</p> <p>#006 ...the cars we ride on are almost obsolete... (P006, p. 8)</p> <p>#007 ...and operational support is limited – it is what it is. We can only work with what we have and nothing else.</p> <p>We should have more means, more staff, more cars. (P007, p. 5)</p>		

	<p>The phones are ours. The command once gave phones, but eventually withdrew them. (P007, p. 6)</p> <p>#008 It would be good not to have so much bureaucracy [to get anything done]. (P008, p. 8)</p> <p>#009 ...the Government could provide other means not for us personally, but for the service we carry out within the investigations, movement tracking, surveillances... The logistical support that has been given is far behind [the expectation]. (P009, p. 5)</p> <p>#010 ...there is always a lack of means, cars, people, we have some difficulties. ...[need] more cars... more personnel, basically everything more logistic. (P010, p. 5)</p> <p>#013 ...always needed: cars, computers... ...[the] cars are old... have several problems. And how is it? Every 'bad guy' has a good car. (P013, p. 7)</p> <p>#018 In the background, the study and planning, of course the more information there is, the better prepared we are. More technological means, more human resources, more people on the street, it is always better. (P018, p. 6)</p> <p>#019 The Force needs to know [the work that] we do and needs to value us... more means, more human resources when it is needed. All that is requested, I do not say 100%, but at least hear us a little. (P019, p. 9)</p> <p>#020 ...in order to be able to carry out diligences of this nature I resort to personal means (e.g., personal computers, personal mobile phones, clothing, everything personal). (P020, p. 6)</p> <p>#021 Of course we lack vehicles. They [criminals] are always one step further. (P021, p. 6)</p> <p>#022 Car support is always lacking... (P022, p. 8)</p> <p>#023 Zero. There is no support at all. [If not] you would not see me using my [personal] computer, my mobile phone, my internet... (P023, p. 22) ...should have the system providing all the information [required] in block. There is no investment, there is no training, there is no support and it is very difficult to evolve. (P023, p. 23) [things to improve] Having groups that innovate from a centralised way. (P023, p. 27)</p> <p>#024 ...if we had other databases... that would make it easier for us... logistic support is still lacking. (P024, p. 6)</p> <p>#025 ...better working conditions... vehicles that are required... [more] human resources too. (P025, p. 6)</p>
Support	Command and team support
Quotes	
	<p>#003 ...at the level of middle management, I think so, there is some support. (P003, p. 6)</p> <p>#004 Maybe sometimes at the managerial level, they do not understand our type of service. The upper management, I believe they think that sometimes we come into work almost to play... ...in terms of direct support, there is no problem at all, both the team colleagues who walk with me on the street, as well as the technical staff; there is no problem. (P004, p. 6)</p>

#005 It would be good for them to spend time in the field... the upper management... (P005, p. 9)

#006 The support is the [team] colleagues ... if things go wrong, we can count on our colleagues. (P006, p. 7)

#007 [In terms of] logistical support, I have the support of my team colleagues who are with me in surveillances. (P007, p. 5)

#008 ...support? Honestly, it's the team colleagues I have on my side, the team, nothing more. (P008, p. 7)

#009 We support each other very much within the team. (P009, p. 5)

#010 ...the team where I am is good, the manager is very good both professionally and as a person. (P010, p. 5)

#011 ...from the managers we have support.
[discuss stress that comes up at work] Just between us... Inside the team. These are very confidential and very important details.
...we choose two or three to vent out. We have a small nucleus and we have to comfort one another. (P011, p. 7)

#012 [They should] talk to us, those who are here, every day, doing fieldwork. (P012, p. 8)

#013 We have the support of the team, always.
[trust them] completely, they are few but good. (P013, p. 6)
The Commands are sensitive to our work, which is good.
From our commander down to our manager. They care. (P013, p. 8)

#014 The best therapy I think is to have a cohesive team, harmonious, a good atmosphere among the team members.
Of course, the hierarchical support of the commander, the managers, is important, and in that aspect too, I cannot complain. (P014, p. 7)

#015 ...as far as our subordinates are concerned, there is no problem whatsoever; in terms of creating conditions throughout the support structure that is above our subunit, we have also had all the support, and the necessary conditions have been created to guarantee our service. (P015, p. 7)

#016 We always have the entire hierarchical chain [for support].
[trust them] Yes, no doubt, in this area [of work] mainly because certain actions have a very high degree of danger and if we do not constantly trust who is by our side, it does not go well because we will not be focused on what we are doing. (P016, p. 8)

#017 The support that colleagues give... [trust them] The group that I work with, yes. (P017, p. 6)

#018 ...we always feel a support from our command that is more human support.
[trust in the team] Yes... It is important to feel this trust. (P018, p. 6)

#019 [trust your team and manager] Yes, yes, there must be [that trust]. (P019, p. 8)

#020 [trust] In those who are closer, yes, some have sensitivity... the command and the chain up have no sensitivity of what this is: the investigation, tracking movements and doing surveillances... [they] have no idea and sometimes do not understand our needs. (P020, p. 6)
[team] It ends up being a second family and being a support that sometimes we do not have or do not get within the Institution. It ends up being the officers who voluntarily support each other. (P020, p. 7)

#021 [trust] Yes, in team mates yes.

[supported] Here by my manager, yes. The others sometimes fail in a few things. (P021, p. 6)

#022 [team mates] In this I have full support. (P022, p. 8)

#023 I have stress in the operations because I do not trust the people who work with me. That is: I do not fully trust other people. As much as I work with them. I know he will not fail me, but [for example] if he has to jump a wall, he is unable. I know he will not let me down, but if he goes chasing after him, he will not be able to catch him [the suspect]. (P023, p. 15)

Attention, there are good managers, but it is lacking at, a national level, managers who understand criminal investigation. (P023, p. 24)

#024 [team mates] Yes 100%, there was no one who I felt had failed me, so far. (P024, p. 6)

...the support from the manager, I never felt that they failed me. (P024, p. 7)

#025 ...the support of co-workers for me has always been good because when we do not know, we ask [each other] and there is always someone who knows. (P025, p. 7)

Things to improve | **Training and CPD**

Quotes

#001 More training would not hurt, it's always good for a person to learn, and even with each other... Sharing of knowledge is interesting. (P001, p. 5)

#002 ...training would be important... It is still missing. I think that the training or update of contents/continuous professional development (CPD) of certain subjects would be important. (P002, p. 8)

#003 I think we should have training elsewhere and that's what I am missing the most. We should have more constant training support. (P003, p. 6)

...there are colleagues who have not attended a training or a refresher course/CPD in fifteen years. The 'update' turns out to be a bit done on the field with the situations that come up and with which we learn every day. The police force has been somewhat unconcerned about training.

....you can go abroad to get some examples and we have so many people sometimes going to do courses abroad and then they do not bring anything new, or if they bring, it does not reach those who work in the field and this is one of the situations that should be altered. (P003, p. 7)

#004 Training we could have... especially in terms of driving. We ride a lot by car and we do many miles, always at high speed, and in the defensive driving, we could do with having more training. (P004, p. 7)

#005 [more training] Yes... training has not happened here at the section level for 7 or 8 years. The cuts were huge and there was no training... there were no updates.

...at the criminal investigation level, it would be good to have more refresher courses/CPD. (P005, p. 9)

#006 ...one can always improve the training... increasingly there is more technology in our [line of] work; we need an adequate training that sometimes does not exist. (P006, p. 8)

#007 Training is scarce ... I have some courses, but there is always space to evolve. In terms of technology nobody teaches us; we are self-taught. We learn from ourselves and each other because no one gives us anything. (P007, p. 6)

#008 Now it is a little better, there are more courses... (P008, p. 8)

#009 I think that the level of training that exists is enough, despite the fact that, admittedly, it is often late. (P009, p. 6)

#010 ...in the training of tracking movements and surveillances, I think that it's a lot [to grasp] in a limited period of time and the practice side of it is very brief; I think they should give more time; maybe the practice should be twice as long for the staff to [have the opportunity to] practice and have a sense of what to do or not to do. (P010, p. 6)

#011 Training could be more appropriate. There are courses abroad that could be given to all the members who work here. (P011, p. 8)

#013 ...training is always needed. There are two investigation trainings per year... but we need refresher courses/CPD... because CPD is always good; in a course of investigation there is always a class with a prosecutor, with a lawyer, with a jurist... Especially in terms of the Law, it is always necessary. Laws are always changing. (P013, p. 8)

#014 ...training is very important. (P014, p. 8)

#015 Training is an essential aspect. (P015, p. 6)

Yes, there is this training... it is up to us to diagnose our own training needs and to put forward to the upper echelon the implementation of these training actions, be it initially in certain areas or be it CPD/refresher courses in aspects that require an update of knowledge. (P015, p. 8)

#016 I think training is appropriate given the legal base. (P016, p. 8)

#017 Training is always welcome and here, in this service, there has been some training.
...it is advisable [to have] at least annually. (P017, p. 7)

#018 I think we should always have more training. Because knowledge never hurt anyone. (P018, p. 6)

#019 I think we are starting to become specialists [in different areas] and they are starting to do more for us [in terms of training]...
...we have already started a new training and I think more will come after that (P019, p. 9)

#020 Training is not entirely appropriate... it does not fit with the reality.
...we should have more current training... a permanent teaching team. (P020, p. 7)

#021 I think we deserved a little more. Because it is always changing. (P021, p. 7)

#022 [Training] This has already been better. I think we're missing out a bit on this part, that there should be refresher courses/CPD. (P022, p. 9)

If they continued with the update/refresher courses it would be very good. (P022, p. 10)

#023 Yes. Training, investment... (P023, p. 26)
 ...there is a lot to improve... CPD, training, refresher courses, working and research groups... (P023, p. 27)
 #024 ...the more training I have, for me, it is better, I feel more confident... (P024, p. 8)
 #025 ...the course they give should be more current; what I went there to do in two weeks does not match reality.
 ...there should be more update of contents, more specific courses for specific areas.
 I consider the sharing of information and mutual assistance very important in this type of service. (P025, p. 7)

Things to improve	Supervision
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Quotes

#005 It would only have benefits. ... more supervision, more education, more updates... (P005, p. 10)
 #007 No. Many of them only hinder, it's because they have no sensitivity for investigation, nor do they want to have. So sometimes it's better not to have it. (P007, p. 6)
 #008 ...there should always be [supervision]... those who are lower in the hierarchy would have more support, because those in the upper management do not know if things are going well. (P008, p. 8)
 #010 [supervision] I do not think so. In my opinion, anyone who does fieldwork is more aware of what is good/bad, of what works or not. (P010, p. 5)
 #011 ...I think it's balanced. In this type of service there is never a lot of pressure from the managers. They make us feel at ease to avoid stress. We have to justify the service and give the information to higher ranks... things always go well. (P011, p. 8)
 #014 ...the support of our managers and our commanders is very important. (P014, p. 8)
 #015 ...yes, there is a monitoring of the upper structure of the police force and in particular of our unit... which translates into positive results for the subunit. (P015, p. 8)
 #017 ...the hierarchy is functional. (P017, p. 7)
 #020 There is supervision, but it exists in a perspective of repression, not in a perspective of support... maybe they care more about repressing instead of guiding the officer into the right track. (P020, p. 7)
 #023 We need to have control, maybe not so much at the individual level, but at the sector level, we need to have it...
 The problem is that up there [upper echelon]... [those] looking down do not know what they are looking for... We must have someone on top [upper echelon] who can see [what is going on/what are the needs/issues]. (P023, p. 27)
 I have no problem with control. I feel that there should be. (P023, p. 29)