

**CRITICAL INCIDENTS: DEVELOPING AN INTEGRATED
MODEL OF UNDERSTANDING**

By

Kimberley Marie McNeill

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ABSTRACT

This PhD program of work aimed to enhance understanding of the factors that influence engagement in critical incidents in forensic contexts, drawing on perceptions of forensic psychiatric patients, trained crisis negotiators, media perspectives, and findings from the literature. Study one involved qualitative analysis of perpetrator perspectives of critical incidents. Thirteen identified perpetrators of critical incidents from a high secure psychiatric sample completed a SORC functional assessment (Goldfried and Sprafkin, 1976) pertaining to a critical incident they had engaged in. Qualitative data from these SORC assessments were coded and subsequently qualitatively analysed using Thematic Analysis (Braun & Clarke, 2006). Seven main themes related to *individual background factors* were identified: (1) coping related factors, (2) personality factors, (3) criminal background, (4) mental health factors, (5) unhelpful beliefs, (6) prior experience of critical incidents, and (7) substance misuse. Five main themes related to events or stimuli occurring prior to a critical incident were identified: (1) environmental factors, (2) experience of difficult emotion, (3) feeling challenged/disempowered, (4) a significant event, and (5) use of substances/intoxication. Finally, six main themes related to the *functions* of critical incidents were identified: (1) to achieve a specific goal, (2) to cope with or remove difficult emotions/symptoms, (3) to make others listen, (4) to gain a positive experience and/or emotions, (5) to seek a sense of belonging/affinity with others, and (6) to establish sense of power/control. These findings highlighted a range of factors that appear relevant to the perpetration of a critical incident. The findings also revealed that the factors can co-exist and vary across both individual and situation, thus highlighting a need for an individualised approach to case formulation.

Study two explored the perspectives of negotiation staff in relation to the motivations for critical incidents, also capturing perceived protective mechanisms and environmental

factors. 20 professionals with active experience of critical incident negotiation completed semi-structured interviews. Four main themes related to functions of critical incidents were identified using thematic analysis, these included: (1) to seek deliberate isolation from others (2) to achieve goals/get needs met, (3) to gain control, and (4) to fulfil a need to communicate or to be listened to. Protective factors included: (1) the presence of inhibitory thoughts, (2) perception of a valued and pro-social support network, (3) pro-social problem solving and coping skills, and (4) self-belief and self-efficacy. The findings revealed that environmental factors were relevant to both functions and protective factors, thus highlighting the need for further exploration.

Study three further investigated the motivating factors for engagement in critical incidents, as documented in media/public enquiry publications. This enabled further exploration of events and stimuli that occurred prior to the event and from an additional source. A review of media publications and public enquiries led to the identification of 165 suitable media and public enquiry publications relating to 24 critical incidents. SORC assessments (Goldfried and Sprafkin, 1976) were completed for each critical incident and thematic analysis was completed. Four main themes related to motivating factors were identified. These included: (1) criminal motivation, (2) achieving goals/getting needs met, (3) to gain control, and (4) a need to communicate or be listened to. Four main themes related to contributory factors for critical incidents were also identified. These included: (1) mental health factors, (2) criminal background, (3) experience of acute emotion, and (4) relationship difficulties. The findings of this study suggested that there are several individual characteristics and background factors relevant to engagement in critical incidents that have yet to be fully captured within existing literature, thus warranting further exploration.

The final study included an exploration of the impact of personality styles/domains, personality traits, personality functioning, social problem-solving style, protective factors, and resilience

on critical incident engagement. Several questionnaires were completed by males residing within high and medium secure forensic psychiatric settings. Comparisons were made between those who had a history of critical incident engagement and those who did not. Extraversion and dissocial tendencies were found to predict critical incident engagement. Neuroticism, impairment of interpersonal functioning, an impulsive/careless problem-solving approach, a positive problem orientation, and resilience were not found to predict likelihood of critical incident engagement. Finally, internal and external protective factors were found to significantly predict non-engagement in critical incidents. As such, the findings highlighted the importance of the role of protective factors in further understanding critical incident engagement.

The findings of this thesis indicates that engagement in critical incidents is multifaceted, yet there are a range of identifiable vulnerability and protective factors, relevant to both the individual and the environment, across a range of forensic contexts. This research suggests that in order to target, address, and effectively manage critical incidents, specialist support and intervention should view critical incident engagement primarily as a maladaptive or dysfunctional means of coping or meeting individual need(s). Moreover, there should be more attention to key external socioenvironmental considerations. This is pivotal in addressing the current and arguably reductionist perceptions of why individuals engage in critical incidents, and the current overfocus on consequences or systemic outcomes of critical incidents. This thesis proposes a preliminary integrated model of understanding that accounts for vulnerability factors, protective factors, socio-environmental factors, and motivations related to the perpetration of critical incidents within a forensic context.

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CHAPTER 1. SETTING THE SCENE

1.1 Rationale for the current research

There are several different types of critical incidents relevant to forensic practice, for example, hostage taking, barricades, protests, self-injurious behaviour, and suicide, etc. (College of Policing 2021; Grubb et al., 2018; Grubb, 2020; Vecchi, 2009). This current PhD thesis focuses on situations where someone has been held against their will with actual or implied force (i.e., hostage-taking), where an individual barricades themselves into a room or premises and refuses to exit, and protests at height (i.e., roof-top protests). This thesis focuses specifically on critical incidents within a forensic context, with recognition that such incidents can occur in a range of environments within the community, correctional facilities, and mental health settings. The rationale for the specific focus on critical incident engagement in *forensic contexts* is based on previous research findings that the idiosyncratic nature of critical incidents renders the task of developing a universal explanatory model insurmountable (Hempenstall & Hammond, 2018). Moreover, previous research has found that future research should focus not only on the catalyst(s) of critical incident engagement, but also on the perpetrator type, intended target(s), situational context, and potential cultural variations (Hempenstall & Hammond, 2018; Yokota, 2013).

Whether in the community or within a secure setting, critical incidents are often significant, volatile, chaotic, and emotionally charged events (Hempenstall & Hammond, 2018; Miller 2006, 2007). Critical incidents are typically characterised by an elevated risk of violence, coupled with high-stake consequences or outcomes (Call, 2003; McMains & Mullins, 2014). They are highly likely to have a significant impact on the perpetrator, negotiation teams, victims, relatives, and the wider community (Hempenstall & Hammond, 2018; Mailloux & Serin, 2003). Such incidents often pose a substantial risk of injury, threat to public safety, and in some cases, result in the fatality of perpetrators, victims, and responding officers (Parker et

al., 2018; Fullard, 2007; Walsh et al., 2012). The term ‘victim’ presents some complexity, as this can apply to the person taken hostage, bystander(s), responding officer(s), and in some cases, the perpetrator(s) themselves (Beauregard & Michaud, 2015). Nevertheless, the psychological damage that may result for all those involved can be insurmountable (Alexander & Klein, 2010; Mailloux & Serin, 2003). Thus, great effort should be awarded to understanding the motivations underpinning critical incident engagement, which may create a foundation for targeted intervention and reduction.

Motivation is the term used to describe the underlying reasons for, or purpose of, certain behaviour(s) (Autin et al., 2022; Reiss, 2004). The research relating to the motivations of critical incidents is somewhat limited (Völlm, Bickle & Gibbon, 2013), and whilst there has been increased research on critical incident negotiation in the United Kingdom (Grubb et al., 2021), there remains a paucity of research regarding the motivating mechanisms underpinning engagement (Crighton, 2015; Hempenstall & Hammond, 2018). Research should therefore focus on identifying the range of potential underlying motivations, so that vulnerable individuals who present with an increased risk of engaging in critical incidents can be identified, and relevant support can be provided. Such research could subsequently form the basis of a proactive, rather than solely reactive approach to managing critical incidents.

Due to the dynamic nature of critical incidents, there is often a range of interacting motivations (Hempenstall & Hammond, 2018; Ireland et al., 2014); this may account in part for the limited availability of research owing to difficulty in exclusively and simplistically categorising the functions of an incident. Furthermore, there is currently no universal classification system or model to account for why individuals engage in critical incidents (Grubb, 2010; Hempenstall & Hammond, 2018). Difficulties in conceptualising and categorising critical incidents not only impacts reporting and recording but may also impact perceptions of responding professionals who often work within multi-agency teams (Brown et al., 2021), and this may subsequently

impact operational functioning and decision making (Alison et al., 2018; Shortland et al., 2020). It is argued that this may be further exacerbated by the greater focus on outcomes of the event, and limited understanding regarding the nature and motivation(s) of critical incidents. This may pose significant challenges for effective formulation and increases the likelihood that factors pertinent to effective risk management and behaviour modification will be overlooked in favour of oversimplified explanations. Failure to accurately identify the function(s) of the incident for the individual involved may result in missed opportunities for effective therapeutic intervention, thus increasing the likelihood of further engagement in critical incidents. This is further discussed in chapter three. In addition, understanding the contributory and motivating factors for critical incidents will be useful in informing risk management procedures and the development of organisational policy in this area.

Currently, there is no empirically driven model relating to factors that motivate engagement in critical incidents within the literature (Grubb, 2010), and this arguably limits the opportunity for a proactive approach. Whilst it is recognised that the primary focus of critical incident negotiation is to foster peaceful resolution (Ireland & Vecchi, 2009), focusing solely on how best to intervene *following* a critical incident is arguably considered reactive, as opposed to being proactive. Greater understanding is required regarding how critical incidents can be prevented, which may be facilitated by the development of an empirical model of factors that motivate engagement.

Whilst it is recognised that current critical incident negotiation approaches do not aim to *address* the issues motivating the incident, or to problem-solve, it is argued that *recognition* of motivating factors will facilitate the relationship building process, which is a core aspect of critical incident negotiation (Ireland & Vecchi, 2009). Identification of pertinent contributory factors is likely to be validating for the perpetrator and may inform effective styles of communication and engagement. For example, if a negotiator identifies that a perpetrator is

engaging in a critical incident in an attempt to regain control that has been removed, they can prioritise affording a safe level of autonomy during interactions. This may facilitate the development of rapport and enable expression of empathy, which are key components of negotiation models, such as the Behavioural Influence Stairway Model, developed by the FBI (Vecchi et al., 2005). As such, the development of an empirical model of understanding arguably has practical application both prior to, during, and following a critical incident, and this will hopefully further enhance existing approaches.

Existing guidelines for decision making during critical incidents have been developed largely based on police experience (Michaud et al., 2008). Due to limited police training on mental health and personality factors (Cummings & Jones, 2010; Edmondson & Cummins, 2014; Thomas & Watson, 2017), there is arguably less emphasis on internal characteristics of the perpetrator and the full range of potential motivating factor(s), and more emphasis on situational and operational factors (Bond, 2020; Cummins, 2007; Neller et al., (2021). The current research aims to address the paucity of empirical research by exploring the individual factors that may contribute to critical incident engagement and factors that may motivate perpetration. Limited research in this area increases the likelihood that professionals managing such events will rely on past experience and subjective appraisal of events to inform their understanding (Michaud et al., 2008). This may shape the way that an incident is managed and prevent a holistic understanding of why the event occurred in the first instance.

Increased understanding relating to the functions of a critical incident may also enhance negotiator effectiveness by enabling them to make better sense of the situation, thus reducing uncertainty and dissonance (Koppenjan & Klijn, 2010). This is particularly helpful in critical incidents, where poor situational understanding may occur as a result of the high emotional intensity and instability, and where uncertainty is considered a key characteristic (May et al., 2023). This may also be exacerbated by prioritisation of self-preservation (Alison et al., 2018)

and the anticipation of future accountability (Alison et al., 2013). Uncertainty has been found to affect the decision maker's ability for problem identification and ability to adequately assess the situation in later stages within the decision-making process (Klein, 1995; Pomare et al., 2019). Moreover, uncertainty can also impede the decision-makers ability to identify relevant information and to disregard information that is irrelevant to the situation (Waring et al., 2018). Indeed, key decision-makers can experience challenges in committing to a choice during a critical incident when available information is unreliable, contradictory and/or competing (Power and Alison, 2017; Smith and Milne, 2018). It is not recommended that negotiators over-focus on the functions of a critical incident *during* the negotiation process, as this may encourage a problem-solving approach and a rush towards resolution (Ireland & Vecchi, 2009). However, it is recognised that negotiators often experience reduced situational awareness (Power and Alison, 2017), thus a degree of understanding in relation to the range of *potential* functions of such incidents can arguably support problem identification, reduce uncertainty, and enhance the relationship building process, ultimately fostering effective decision making.

It is imperative that those supporting vulnerable individuals who may be more likely to engage in critical incidents understand the complexities of engagement in critical incidents, and the factors that can motivate engagement. This is particularly relevant in forensic-clinical populations and for those detained in prison or under correctional supervision. Whilst many professionals working in this field can identify common and prevailing motivating, risk, and/or vulnerability factors for those who engage in critical incidents, this is largely captured from an anecdotal perspective and is not adequately addressed in the research base (Gelfand & Brett, 2004; Grubb, 2010). The lack of detailed exploration arguably results in the description of contributing factors in terms that are too broad, such as 'mental illness related'. Such broad perceptions contribute very little to targeting factors underpinning engagement in critical incidents, and arguably minimises the complexity of such behaviour. The development of an

empirical model could also be used to inform intervention planning, allowing for pertinent risk and vulnerability factors to be targeted specifically.

It is acknowledged that the emotional intensity of the event, alongside vulnerability factors such as cognitive impairment, trauma history, substance use, and/or mental health symptomatology, may result in the perpetrator having limited insight into the factors contributing to engagement. Indeed, it cannot be assumed that in all cases the individual has enough insight to understand the function of their own behaviour (Ireland & Vecchi, 2009). It is further recognised that professionals may have impaired ability to extract information from the event that is indicative of the perpetrators underlying motivations, particularly as this may not be readily apparent (Petherick & Turvey, 2008). Despite this, there is a clear need to consult the views of those directly involved in the critical incident, including perpetrators, negotiators, and those responsible for gathering information or intelligence regarding events. As such, this thesis aims to add to the current literature by including perceptions from a range of key stakeholders to enable a more holistic understanding. It is hoped that this will add value to the framework of understanding, as it will include input from those with lived experience, and those with the greatest insight into critical incident engagement.

Whilst existing literature has paved the way for enhancing understanding of motivational factors, there are methodological limitations and challenges. Indeed, methodological issues relate to the wider negotiation literature and include limitations such as sampling bias, whereby participants are only recruited from a single population, a lack of triangulation in research methods, lack of context validity, and a lack of control groups in many studies (Buelens et al., 2007). This poses many challenges for research of this nature, as it is likely that there will be commonly occurring motivating factors for those residing in forensic mental health settings or correctional facilities, and those who have a history of engaging in critical incidents. As such, this had traditionally resulted in difficulty in differentiating risk, vulnerability, and protective

factors between those who engage in critical incidents, and those who do not. It is imperative that data obtained from participants is representative of those who have engaged in critical incidents within forensic populations, so that the empirical model has ecological and context validity. Therefore, this thesis includes negotiator perspectives from a range of settings, and comparisons between individuals who have a history of critical incident engagement and those who do not.

Existing research has also offered limited attention to protective or promotive factors, and as such it fails to account for how or why many individuals across a range of forensic settings experience significant distress or crisis, and do not engage in critical incidents. Not only is this important in terms of enhancing understanding of contributory factors, but this is also key to informing future treatment aims and specialised support for those who do engage in critical incidents, thus potentially reducing the likelihood of future occurrence. There are likely a range of individual and environmental protective factors that mitigate the risk of critical incident engagement. Vulnerability and protective factors are discussed in detail in chapter four of this thesis.

1.2 Theoretical underpinnings

Psychological theory is the core foundation of this PhD research. Whilst there is no psychological theory specifically relating to critical incident engagement at the current time, existing and empirically driven theory is discussed and applied. Current understanding of critical incident engagement relies primarily on anecdotal insights and operational functioning (Bond, 2020). Whilst this enables a wealth of understanding, there is further opportunity to ensure that approaches to critical incident management are informed by pertinent psychological theory. A more holistic and theoretical understanding will likely inform critical incident management procedures and serve to maximise both the well-being and effectiveness of critical

incident responders, thus also improving outcomes for individuals who present in crisis or conflict.

Several psychological, criminological, and sociological theories are included in this thesis, with these relating to strain (i.e., General Strain Theory; Agnew, 1992), self-determination (i.e., Self Determination theory; Deci & Ryan, 1985 and Cognitive Evaluation theory; Deci, 1975), socio-schematic factors (i.e., Social Learning Theory; Bandura, 1977; Differential Association theory; Sutherland, 1947; Social Identity Theory; Tajfel, 1978; Tajfel & Turner, 1979; and Social Bond Theory; Hirschi, 1969), and finally, the meeting of primary needs (i.e., Good Lives Model; Ward, 2002, Ward & Brown, 2004, Ward & Stewart, 2003, and Differential Opportunity Theory; Cloward & Ohlin, 1960).

In addition to the application of existing theory, key considerations are also included, such as the requirement to consider the dynamic and idiosyncratic nature of critical incidents, and the interaction of individual motivations, socioenvironmental factors, and presenting vulnerability and protective factors. These factors are captured within a preliminary integrated model of understanding which has been informed by the psychological and criminological theory presented in chapters three and four of this thesis. The theories evaluated in this thesis were also used to inform the methodological approaches utilised in the qualitative studies, as presented in chapters six and seven, and variable selection in the qualitative study outlined in chapter eight.

1.3 Organisation of the chapters

The following introductory chapters outline issues related to defining and conceptualising critical incidents across forensic contexts. Challenges regarding ascertaining the true prevalence of critical incidents within the United Kingdom (UK) are discussed, and the potential implications of this are highlighted. Vulnerability and protective factors are then

presented with reference to psychological literature and theory. This includes recognition of the range of factors that may increase and/or reduce the likelihood of an individual engaging in a critical incident. Motivations and socioenvironmental factors are then explored, and the psychological and criminological theories that may be applicable to critical incident engagement are evaluated.

CHAPTER 2. THE NATURE AND EXTENT OF CRITICAL INCIDENTS.

2.1 Structure of this chapter

This chapter outlines the definitions and conceptualisations of critical incidents, with attention to how these vary across settings and how this may impact responses. It provides an overview of various categorisations and typologies of critical incidents, as captured in the literature. The prevalence of critical incidents is then discussed, with attention to the various issues impacting reporting and recording. It concludes that a model of understanding is required to support clearer recognition of the full nature of critical incidents, and to inform effective management.

2.2 Defining and conceptualising critical incidents across settings

Defining critical incidents

Critical incidents can occur in a range of settings, such as secure hospitals (Völlm, et al., 2013), prisons (Mailloux & Serin, 2003), and in the community (McMains, Mullins & Young, 2020). In broad terms, a critical incident within a forensic context refers to any substantial event that can disrupt activities of daily living for an individual, and which requires the expertise and intervention of others to support effective management (Ireland et al., 2014). The defining feature of a critical incident is that it presents an elevated risk of harm to that which would ordinarily present in a given context or environment (Gelfand & Brett, 2004). Thus, critical incidents are considered significant and complex events that extend beyond typically encountered situations, and which therefore require specialist intervention and management (Ireland et al., 2014). The definition of critical incidents is intentionally broad across forensic practice (Ireland et al., 2014). It is acknowledged that there are clear benefits of recognising that regardless of perceived severity, all incidents have potential to escalate into a critical incident, not least due to the multifaceted and fluid nature of such events (Hempenstall & Hammond, 2018). Whilst this supports preparedness and arguably buffers against staff

complacency, broadened definitions arguably increase the likelihood of the nuances of such incidents being poorly understood. This may pose challenges not only in relation to defining and conceptualising critical incidents, but also for effective prevention and management.

The term ‘critical incident’ is increasingly used as an ‘umbrella’ term in various contexts, and conceptualisation largely appears dependent on the level of response required and potential outcomes of the incident (Hempenstall & Hammond, 2018). Outcomes of interest may relate to the level of risk or impact to the individual or the wider community, or perceptions of public trust, safety, and confidence. Whilst these factors are undoubtedly important, the sole focus on event outcomes arguably results in missed opportunities to define critical incidents based on common antecedents. It is argued that this may result in an overfocus on managing critical incidents at an operational level and managing public perceptions, as opposed to prediction and prevention. Moreover, definitional challenges can also impact critical incident identification, which not only poses operational challenges and limitations on decision-making (May et al., 2023; Waring et al., 2020), but also has likely implications on recording prevalence.

Public perceptions of critical incidents also pose definitional challenges. By their very nature, critical incidents often disrupt the ‘*status quo*’ of daily living, and often necessitate the use of specialist resources, and with this, often result in vast economic impacts (Carter, 2019; Ireland et al., 2020). As such, critical incidents can be defined by the public as an unnecessary nuisance, a form of misconduct, or as an act of ‘attention seeking’ (Membery, 2022). Defining critical incidents in such simplistic terms, and focussing solely on the impacts of critical incidents, offers little in the way of understanding and prevention of future reoccurrence. Further, it is likely that the lack of recognition of the complex factors underpinning critical incident engagement, coupled with media sensationalism, only serves to perpetuate definitional challenges, potentially impeding effective management as a wider consequence.

Critical incident management

Critical incident management has gained considerable momentum over the past five decades and is considered a major development in both law enforcement and policing (Vecchi et al., 2005). The preferred approach for managing critical incidents in the UK, and indeed many other countries, is critical incident negotiation (Ireland & Vecchi, 2009). Traditionally, the term ‘hostage negotiation’ was used in this field, yet the term ‘crisis negotiation’ was introduced owing to the recognition that not all incidents involved an act of hostage taking (McMains & Mullins, 1996). This term was then further reconceptualised as ‘critical incident management’, owing to the recognition that a wide range of incidents can emerge (Greenstone, 2009). The increased attention and implementation of critical incident negotiation is of little surprise, particularly given the reported effectiveness and increase in positive outcomes. Indeed, McMains & Mullins (2006) found that critical incident management is widely effective, with success rates as high as 95%, and where success is defined as full resolution without fatalities. Moreover, negotiation techniques are favoured over tactical interventions, which can pose around 78% risk of injury or fatality (Dolnik, 2003). Nevertheless, both conceptualisation and critical incident management can vary across setting and context. Varying operational definitions and ambiguity pertaining to what incidents meet the criteria of a critical incident can have vast implications for critical incident management from the point of identification to tactical and emergency deployment (May et al., 2023; Power and Alison, 2017; Waring et al., 2020).

Operational definitions of critical incidents

The police definition of a critical incident is *‘any incident where the effectiveness of the police response is likely to have a significant impact on the confidence of the victim, their family and/or the community’* (College of Policing, 2021). Positively, this definition includes clear

focus on the importance of an effective police response and recognition of the far-reaching consequences of critical incidents to various stakeholders, which is rarely captured in the literature. Nonetheless, this overarching definition offers little understanding of the often significant and pervasive impacts for all individuals involved, and in terms of physical safety, psychological wellbeing, and post incident management. Moreover, this definition does not account for the complexities in ascertaining who the victim(s) of the critical incident may be, as this can arguably vary on an individual and organisational level, and due to the complex and multi-faceted nature of such events.

It is suggested that the police definition reflects a tiered approach to all encountered incidents, where the presenting behaviour is initially defined as problematic, challenging, or criminal, and any escalation of this would meet the threshold for the higher tier of ‘critical’. As such, this may result in definitional challenges and difficulties in consistently appraising when the higher threshold is met. Perhaps more pertinently, there is also a lack of emphasis on commonly occurring or distinguishing motivating features of critical incidents, nor is there focus on critical incident prevention. In many ways it appears that critical incidents are viewed as somewhat unpredictable, and even inevitable in some cases. There appears to be little focus on prevention or prediction of such events, and this may be explained in part by the all-encompassing definition, and greater focus on undesired systemic outcomes than contributory factors, which may be individual or context/setting specific.

In UK prisons, barricade, hostage, and protests are all captured under the definition ‘*protesting behaviours*’ (Ministry of Justice: HMPPS Annual Digest, 2021/22). Whilst this definition enables behaviours to be grouped and categorised, the term ‘protest’ arguably engenders a surface-level understanding of behaviours, which may extend far beyond disapproval or objection. Some relatively minor incidents of hostage taking, barricades, and smaller scale protests may even fall within the definition of a ‘*concerted indiscipline*’ (Ministry of Justice:

HMPPS Annual Digest, 2021/22). This definition relates to incidents where two or more prisoners form together in a deliberate attempt to defy lawful instruction and to disrupt the routine and procedures of a prison, i.e., by not conforming to the rules and regulations (Ministry of Justice: HMPPS Annual Digest, 2021/22). Due to the potential for overlap, it is possible that incidents may be defined differently depending on the understanding of the responding individual(s), local reporting procedures, and the context of the incident. Moreover, defining such incidents as a form of indiscipline arguably results in an over-focus on engagement as a form of defiance or misconduct, rather than a maladaptive form of coping or problem-solving.

Similar definitional challenges may also be relevant to secure hospital settings, where critical incidents are often captured as part of routine incident reporting and tend to be defined as acts of misconduct or maladaptive behaviour. Notably, the way in which a critical incident is defined and conceptualised may also be dependent upon the level of security of the setting and the governance procedures in place. Further definitional challenges may occur where mental health factors are present, and where there is clear indication that behaviours are driven by psychotic symptomatology. In such cases, critical incidents may not be defined as such, and may be attributed to presenting symptomatology, thus indicating diagnostic overshadowing. Perhaps it is the complexity and substantial variation of critical incidents that presents definitional challenges (Hempenstall & Hammond, 2018). Not only does this potentially impact the way that an incident is recorded or managed, but it also arguably increases the likelihood that the defining characteristics of the situation will remain poorly understood. This is further discussed in the ensuing sections of this chapter.

Within a forensic psychiatric context, critical incidents are regarded as events that require management resources not readily accessible or available to the individual (Ireland et al., 2014). Engagement in critical incidents in secure settings can arguably have vast implications, not least for risk management, but also for placement considerations and decisions pertaining

to the required nature and level of supervision and care. It is also notable that individuals can face criminal repercussions and adjudications for engaging in such incidents (Prisoner Discipline Procedures, HMPPS, 2023; Prison Related Offences, CPS, 2022), and which can have further repercussions across the life trajectory, potentially posing barriers to successful recovery and rehabilitation (Ministry of Justice: HMPPS Annual Digest, 2021/22).

Fortunately, critical incidents are relatively uncommon in secure forensic settings (Mailloux & Serin, 2003), nonetheless, the consequences of such events can be catastrophic (Fullard, 2007). Mason (2000) asserts that, by their very nature, secure forensic settings inhibit autonomy of thought, will, and action, thus arguably increasing the likelihood of critical incident engagement. Moreover, secure environments arguably house individuals with a greater propensity of engaging in critical incidents, such as those who may experience difficulties with emotion regulation, problem-solving, coping, mental health, and behavioural stability (Feldmann, 2001; Mailloux & Serin, 2003). Further, individuals residing in secure settings are highly likely to present with past experiences of trauma and a history of serious violence (Huinen, 2010; McKenna et al., 2019).

Secure forensic settings can also be considered chaotic and stressful, yet this largely depends on the individual's circumstances and perceived ability to manage associated stress (Brown & Ireland, 2006). However, it is argued that secure forensic environments can also afford a greater level of stability in an otherwise chaotic and unpredictable lifestyle for some individuals. Therefore, critical incidents cannot be defined as a core feature of residing in a secure forensic setting, yet factors increasing the potential likelihood of engagement, and which are characteristic of forensic settings, should be acknowledged. Individuals residing in secure services can often feel unfairly treated, trapped, powerless, and constrained, which can result in protesting behaviours in some instances (Mason, 2000). Such feelings can also be linked to an increased risk and severity of violence, particularly where individuals feel like they

are being controlled or coerced (Meehan, McIntosh & Bergen, 2006). There has been little research regarding the perspectives of individuals engaging in critical incidents within a forensic context, yet it is widely accepted that behaviours can be complex and varied (Ireland et al., 2014).

Types of critical incidents

Existing literature relating to critical incidents is somewhat limited, even more so in the UK and in relation to incidents occurring in forensic and forensic-clinical settings (Michaud et al., 2008; Völlm et al., 2013). Nonetheless, critical incidents are not limited to forensic or clinical settings and are also dealt with by police officers within community settings (McMains, Mullins & Young, 2020). Critical incidents can include a range of presenting behaviours and situations. These may include, but are not limited to, incidents of hostage taking, barricades, protests at height, anti-social behaviour, violence, self-injurious behaviours, attempted or completed suicide, kidnapping, extortion, bomb threats, and hate crime (College of Policing 2021; Giebels & Noelanders, 2004; Grubb et al., 2019; Grubb, 2020; Vecchi, 2009). As such, a wide range of presenting behaviours and offending typologies are typically encountered, and this can present challenges in terms of understanding and effective management.

As this thesis aims to develop a model of understanding that is applicable across forensic practice, a more specific and narrow focus is utilised. The further purpose of this was to ensure that the nuances of typically encountered critical incidents that can occur across forensic practice are better understood. For example, motivations of self-injurious behaviour and attempted and completed suicide are well captured in existing literature (Bednarova et al., 2022; McManus et al., 2019). Moreover, suicide and para-suicide behaviours can be distinguished from other critical incidents in that they are often, but not always, inwardly

(directed towards oneself), rather than outwardly directed (Plener et al., 2015). Terrorism, kidnapping, and hate crime were also excluded from the definition included in this thesis, as these are distinct yet interrelated criminal offences, with specialist investigation and response procedures (Dolnik, 2003; Giebels & Noelanders, 2004; Wilson, 2000). Finally, aggression and anti-social behaviour were excluded from the definition utilised in this thesis, as whilst it is recognised that such behaviours are often core features of critical incidents, they often present as secondary behaviours emerging during the context of such events (Lauvik, 2014). Hostage-taking, barricades, and protests are all considered examples of critical incidents requiring specialist management by trained negotiators (Vecchi, 2009). As such, this thesis replicates the approach of existing research (i.e., Hughes et al., 2018; Ireland et al., 2014; Vecchi et al., 2005) and focuses specifically on incidents of hostage taking, barricades, and protests at height. This is not only reflective of the critical incident types captured in existing forensic research, and which most typically feature in forensic settings, but this also supports the aim of further building upon existing understanding.

Hostage situations are defined as *'the detention of an individual against their will and without legal authority, for a particular motive'* (Alexander & Klein, 2009). McMains and Mullins (2006, p. 249) define hostage situations as *'any incident in which people are being held by another person or persons against their will, usually by force or coercion, and demands are being made by the hostage taker'*. In prison settings, hostage situations are defined as *'where one or more persons are, unlawfully, held against their will by one or more individuals (either static or on the move), including hostage incidents where collusion was suspected or confirmed'* (Ministry of Justice: HMPPS Annual Digest, 2021/22). As such, there are definitional variations, where focus is largely on the potential outcomes of a situation, level of misconduct, or the criminal/legal elements. Current definitions do not account for the potential

motivations of such incidents, again limiting the opportunities for a proactive and preventative approach.

Hostage taking is well documented in history, and has gained popularity more recently as a method utilised by terrorist organisations (Vecchi et al., 2005; Lewis & Ireland, 2019). As is the case with protest and barricade situations, hostage situations do not present with typical defining characteristics, and vast disparity is often observed across incidents (Grubb, 2010). Alexander and Klein (2010) outlined numerous types of hostage-taking incidents, with one being *'tiger kidnapping'*, where individuals are forced to comply with a specific demand, such as accessing money or confidential information. Another hostage-taking type identified by Alexander and Klein (2010) is described as *'politically inspired hostage taking'*, where individuals are taken captive as a means of advancing a political agenda or achieving political demand(s). Such types of hostage-taking are argued to be less likely to result in peaceful resolution, and more likely to involve careful planning and increased media attention (Alexander & Klein, 2010). Nevertheless, there appears to be a lack of consensus regarding how critical incidents are defined, with conceptualisation appearing largely informed by varying perceptions of the incident type, self-reported motivations, and the presenting behaviours that emerge. Indeed, similar challenges are observed with other types of critical incidents, such as barricades.

Barricades are defined as situations where access to a particular room or area is prevented by one or more individuals, and which usually involves the entrance, exit and/or open spaces being blocked with a physical barrier (Merriam-Webster, n.d.). In prison settings, barricade situations are defined as where *'one or more offenders deny access to all or part of a prison to those lawfully empowered to have such access, by use of a physical barrier'* (Ministry of Justice: HMPPS Annual Digest, 2021/22). In secure settings, this may include an individual(s) barricading their cell or room, or even in communal spaces where access can be controlled and

restricted (O'Toole, 2007). Barricades often include the individual(s) restricting observation of the environment, as well as access (O'Toole, 2007). This may include the covering of observation windows with items such as mattresses, or even faeces (Wahidin, 2019). As such, depending on the specific nature of the incident, barricade incidents may be defined as protest incidents. An example of this is where the use of faeces or menstrual blood to prevent observation may be perceived in more traditional terms, such as a '*dirty protest*' (O'Keefe, 2006; Wahidin, 2019).

Protests are defined as a public demonstration where one or more individuals expresses their views about a particular issue, situation, event, policy, or procedure to raise awareness, or to foster transformation and social movement (della Porta, 2022). In a forensic context, protests often involve significant levels of disorder, interpersonal violence, and destruction, that can subsequently result in physical, psychological, social, and economic harm (Krug et al., 2002; Membery, 2022). The scale of protests can vary considerably within forensic contexts, for example, this can range from incidents with one individual and where incidents are resolved in a timely manner with minimal repercussions (Cobbina et al., 2021), to larger scale collective action that amasses considerable media attention (Membery, 2022). Definitions vary within existing literature, with terms such as 'prison riots', 'concerted indiscipline', 'prison strikes', 'civil unrest' and 'prison protests' being used interchangeably. Moreover, the characteristic features vary within different definitions, with some publications defining protests as involving one or more individuals (della Porta, 2022), and other research defining riot incidents as involving more than 15 prisoners (Membery, 2022). Useem and Piehl (2006) describe prison riots as involving more than 30 individuals, over a period of at least 30 minutes. Furthermore, they note that riots result in significant injury/damage and that hostage-taking and barricades are core features (Useem & Piehl, 2006).

Despite the differences in definitions, there are several commonly identified features of protests occurring within a forensic context. For example, all protests have the potential to result in collective violence and unquantifiable damage or harm (Ireland et al., 2020), and protests are often precipitated by systemic issues, such as aversive conditions, treatment, or experiences (Brangan, 2019; Heard, 2021; Membery, 2022). Protests can be peaceful or violent, and can take many forms, such as rallies, riots, marches, ‘sit-in’s’, roof-top demonstrations, protests at height, hunger-strikes, ‘dirty protests’, work stoppages, and other forms of civil disobedience (Ireland et al., 2020; Membery, 2022; Useem & Reising, 1999; Useem & Piehl, 2006). It is argued that, regardless of the scale, nature, or specific outcomes of the event, the definition of a protest within a forensic context in the UK should capture features typically encountered. As such, the definition of protest used for the purposes of this thesis is ‘an incident including one or more individuals, which may include critical incidents at height, and where there is an attempt to communicate or redress a perceived injustice in order to raise awareness or engender change or reform’.

The aetiology of prison protests has been explored in the literature, with most research relating to post incident government-officiated reports (Membery, 2022), or specific larger-scale collective protests which received considerable media coverage (e.g., Carrabine, 2005; Lamb, 2018; Tartaro, 2012; Useem & Kimball, 1991). Nevertheless, Useem and Goldstone (2002) proposed that prison riots are caused by a combination of external and internal factors. The conceptualisation framework hypothesised by Useem and Goldstone (2002) outlines three main categories of the causes of protests. Categories include (1) *structural factors*, which relate to external factors impacting the prison and its population, such as overcrowding, physical conditions and staffing levels, (2) *cultural factors*, which are internal factors shaped by values and norms of the prison subculture, such as gang relations, racial/ethnic tensions, and power differentials, and (3) *situational factors*, which are situation specific events, such as inmate

grievances, staff misconduct, or external events. Nevertheless, it is argued that a complex interplay of overlapping internal and external causal factors may be relevant to engagement in critical incidents, yet it appears that the individual and/or collective response to these causal factors is of paramount importance.

As outlined, hostage-taking situations, barricades and protests are complex and multifaceted events that are influenced by a range of factors, both internal and external to the forensic setting. Nevertheless, the forensic setting clearly plays a role in creating the context in which significant incidents may unfold (Boin & Rattray, 2004). Whilst the defining features of such incidents vary across forensic and forensic-clinical settings, it is argued that a greater degree of consensus is required when defining critical incidents that occur within a forensic context. It is further argued that more precise definitions will also enable clearer conceptualisation of critical incidents, which is discussed in more detail hereafter.

Conceptualising critical incidents

In respect of the nature of critical incidents, much of the previous literature has focused on identifying different categories of critical incidents, albeit with recognition that typologies are rarely mutually exclusive (Miller, 2007), and that there will likely be a degree of overlap (Yokota, 2013). Indeed, academics have suggested that the conceptualisation of such events *'has itself been hostage to an intuitive and empirically fragmentary conceptual framework'* (p.1136, Michaud et al., 2008). Indeed, the absence of a universally accepted classification system or model remains (Grubb, 2010; Hempenstall & Hammond, 2018). Historically, conceptualisations have included simplistic, yet arguably reductionist differentiations, such as 'hostage' vs 'non-hostage' (Noesener, 1999), or 'siege' vs 'non-siege' incidents (Lanceley, 1999). Nevertheless, it is argued that there are more sophisticated nuances and defining features of critical incidents (Crighton, 2015), some of which are presented hereafter.

Motivations can also be categorised as *instrumental*, to achieve a particular goal, or *expressive*, influenced by an internal emotion or a grievance (Lipsedge, 2004; Miron & Goldstein, 1979; Vecchi et al., 2005). Recent UK prevalence data reported by Grubb (2020) indicated that the majority (78.1%, n = 125) of critical incidents reported over a 24-month period were categorised as ‘expressive’ in nature, and a minority (15.0%, n = 24) were classed as ‘instrumental’, the latter of which included only male perpetrators. As such, all incidents classed as ‘instrumental’ were reportedly perpetrated by males. Due to the exploratory and descriptive nature of this research, it is unclear whether such gender differences are generalisable, or whether this may be attributable to reporting bias, or potentially limited understanding of the motivations of critical incidents. Moreover, whilst the conceptualisation of ‘instrumental’ vs ‘expressive’ offers a basis for broad description or differentiation of critical incidents, this simplistic dichotomous categorisation arguably provides an inconclusive understanding of the varying motivations, which can change, fluctuate, and interact (Crighton, 2015; Hempenstall & Hammond, 2018). Moreover, such dichotomous models have been criticised for being too general, and for further enhancing difficulties in differentiating between the critical incident and the perpetrator (Yokota, 2013). Therefore, there is a need for clearer conceptualisation, particularly within a forensic context, and this will arguably be informed by a more holistic understanding of the motivations of critical incidents from various perspectives.

A critical incident can also be categorised in three main dimensions, as a *crisis*, a *conflict* situation, or a combination of both (Ireland et al., 2015). Individuals involved in crisis situations are often described as having exceeded their capacity to cope (Vecchi, 2009). Crisis situations are often characterised by an acute sense of chaos, and cognitive, affective, and behavioural instability (Vecchi et al., 2005). Individuals presenting in chaos often perceive there to be a serious threat to their physical or psychological safety and tend to approach this with an impaired ability for coping and low rationality (Vecchi et al., 2005). Crisis situations

tend to be more expressive in nature and are less likely to be goal orientated (Lipsedge, 2004). Crisis situations are often characterised by the belief that presenting challenges cannot be solved with conventional problem-solving methods, often due to the presence or perception of insurmountable barriers (James & Gilliland, 2001). As such, critical incidents within this context can arguably be conceptualised as the use of ‘extreme’ problem-solving methods as a means of resolving presenting challenges and meeting needs, albeit in a maladaptive way (Ireland, et al., 2015; Hatcher et al., 1998; McMains, 1993).

Conversely, conflict situations are more likely to be rational, goal led, and focussed on achieving a specific outcome (Lipsedge, 2004). Indeed, some individuals engage in a critical incident to achieve a specific goal, or to assert power and/or dominance over other individuals (McMains & Mullins, 2014). Situations where goals, needs, or interests are perceived as being blocked by an individual or group may also precipitate a conflict situation (Wilmot & Hocker, 1998; Yeager & Roberts, 2015). Conflict situations tend to be less spontaneous, and often include at least a degree of planning (Vecchi, 2009). Such incidents are often deliberate and are perceived by the initiator to be a realistic or legitimate means of meeting their identified needs, or at the very least raising attention to their presenting challenges (McMains & Mullins, 2014; Yeager & Roberts, 2015). In some instances, individuals engaging in conflict situations may have full awareness that their behaviour is illegitimate, however, they may feel that they have exhausted all other opportunities and/or that engaging in a critical incident is their only option of resolving their conflict (Yeager & Roberts, 2015). As such, this emphasises the importance of fully understanding the range of motivating factors for critical incidents so that opportunities for redirection, intervention, and preventative measures are not overlooked.

It is difficult to exclusively categorise a critical incident as either a crisis or conflict, as many critical incidents are dynamic in nature and may fluctuate between the two (Vecchi, 2009). Moreover, in many cases, crisis situations can present when conflict situations do not go as

planned, or where the situation becomes more chaotic and intense (Vecchi, 2002). This may be explained by information processing theory, which posits that cognitive processes, such as the ability to rationalise, problem-solve, and accurately process information, can become impeded as conflict and stress intensifies, and sensory input increases (De Dreu & Gelfand, 2007; De Dreu & Weingart, 2003). Nevertheless, the specific impact of stress and conflict is currently unclear in the evidence base, and research exploring effects on executive functioning has yielded inconclusive and counterintuitive findings (Shields et al., 2016). As such, it is reductionist to state that critical incident engagement occurs solely because of executive dysfunction, and it is argued that the explanation is likely far more nuanced and multi-faceted.

Some research has conceptualised *specific types* of critical incidents based on established classification systems (i.e., Call, 1996, 2003; Völlm et al., 2013). Call (2003) proposed a classification system describing three typologies of critical incidents. These included, '*the hostage situation*', '*the barricade-victim situation*', and '*the barricade-no victim situation*'. This extended more traditional conceptualisations via recognition that critical incidents do not always involve *direct* risk to hostages or significant others, yet it is argued that the use of the terms 'victim/no victim' may have resulted in mis-conceptualisation, or additional definitional challenges; further narrowing the focus somewhat. Moreover, the sub-types proposed by Call (2003) were largely descriptive in nature and combined both perpetrator and location characteristics, which offered little in the way of understanding motivations (Bond, 2020). Völlm et al., (2013) suggested a classification system for hostage events, including politically motivated events, criminal(s) trapped in commission of crime, prisoner revolt, domestic related incidents, terrorism, and incidents perpetrated by individuals who are emotionally disturbed. Nonetheless, it is recognised that politically motivated hostage events have received the most attention in existing literature and the media, hence there is a need for further research and exploration of critical incidents that are not politically driven. This forms a key aim of this PhD

research, where the focus is extended to a range of critical incident typologies and classifications.

McMains and Mullins (2014) conceptualised 10 different categories of critical incidents, focusing primarily on incidents typically responded to by operational negotiators and the nature of the presenting behaviour. These included 1) barricaded subject incidents, 2) high-risk suicide attempts, 3) domestic incidents, 4) prison and jail riots, 5) execution of mental health warrants, 6) execution of high-risk warrants, 7) debriefing in crisis incidents, 8) stalking incidents, 9) violence in the workplace, and 10) school violence. Whilst this approach has raised attention to several additional situations that have not previously been conceptualised as critical incidents in the literature, similar motivations likely occur for each category. Moreover, these categories were generated based on the responses of negotiators from the United States of America (USA), thus it is unclear if these categorisations are cross-culturally relevant.

With recognition of this, Grubb et al., (2018) conducted qualitative research with 15 negotiators from nine forces in England. The findings revealed 2 primary, 4 secondary, and 12 tertiary categories of negotiator deployment. Whilst a more specific and detailed approach to categorisation is extremely helpful for understanding the nature and situational characteristics of critical incidents that are specific to England, and this supports operational and data-recording considerations, it offers little in the way of understanding the *motivating* factors. Moreover, whilst conceptualising critical incidents based on responses, deployment, and incident type is of fundamental importance for effective management of critical incidents, it arguably limits the scope for pro-active prevention. Moreover, whilst the categories identified by Grubb et al., (2018), do offer a degree of insight into what factors may be relevant to critical incidents occurring in England, or the UK, it remains unclear which, if any, factors are subject to cultural variance.

To further expand on dichotomous classification systems, Yokota (2013) applied the actions system model (Shye, 1985) to a sample of hostage and barricade situations in Japan and identified 34 offence and behavioural variables. The central premise of the actions system model is that the source (or motivation) of behaviour is to modify an *internal* emotional experience, or an aspect of an individual's *external* environment (Yokota, 2013). The target of the behaviour can be either an individual, or an external context (Yokota, 2013). When combined, both the source and target of the behaviour provide the context for critical incident engagement based on four modes of functioning. These include (1) *the adaptive mode*, where individuals respond to and attempt to adjust their external environment, often in an instrumental and opportunistic way, (2) *the expressive mode*, where actions reflect the internal psychological aspects of the offender, (3) *the integrative mode*, where actions represent an attempt to modify or alter an individual's internal state, and (4) *the conservative mode*, where the aim is to redress an undesired internal state that has been precipitated by an external factor.

The categories applied by Yokota (2013) appear, at face value, to have clear relevance to critical incident engagement, and they offer *some* basis upon which individualised risk assessment and intervention planning can potentially be formulated (Fritzon et al., 2014). Whilst the four modes of functioning outlined by the actions system model may enable deeper understanding of the motivations of maladaptive behaviours (Fritzon et al., 2013), this relies upon accurate assignment to the relevant mode of functioning. To assist assignment, Yokota (2013) proposed a classification procedure for critical incidents. This included (1) assigning critical incidents to *the adaptive mode* category when incidents are spontaneously perpetrated by individuals who have been unsuccessful in perpetrating another crime, (2) labelling incidents as *expressive* when they involve hostages who are the perpetrators current or previous partner, spouse, or family member, (3) classifying incidents as *integrative* when they are

committed by those with mental health issues, and (4) labelling incidents as *conservative* where a degree of prior planning and tangible demands can be identified.

Given the complex and multifaceted nature of critical incidents, it is plausible that more than one mode of functioning is relevant to perpetration. Moreover, it appears overly simplistic and even stigmatising to explain the motivations of critical incidents based solely on the descriptive factors outlined. For example, critical incidents perpetrated by those with mental health challenges (integrative mode), may, in fact, represent a means of expressing and gaining support for their internal difficulties (expressive mode). Furthermore, within a clinical environment, individuals with mental health challenges may engage in critical incidents as a means of adapting to their environment (adaptation mode) or to redress an aversive internal experience triggered by the environment (conservative mode). As such, it is argued that the nuances of the true functions may be concealed by this non-person-centred classification system, thus potentially militating targeted practical and therapeutic intervention, and further reinforcing diagnostic overshadowing. Moreover, the 34 offence variables and/or facets of behaviour identified by Yokota (2013) from a literature review relate to a non-exhaustive list of situational variables and context specific factors, and where there is arguably a significant degree of overlap.

Indeed, the study by Yokota (2013) was replicated by Hempenstall and Hammond (2018) using 242 cases from the United States, Ireland, Canada, and Sweden, and whilst the basic premise of Yokota's (2013) findings was supported, several challenges were observed. These included cultural variations, challenges in applying the identified offence variables to the selected sample, and challenges in classifying critical incidents based on incident type. Moreover, it was identified that not all incidents fit exclusively into one of the four classifications, as such, and as also identified by Yokota (2013) herself, it is perhaps more appropriate to consider each incident based on the perpetrator type and situation. It is argued that this may support the

development of a more accurate and incident-specific framework, based on the action systems model (Hempenstall & Hammond, 2018).

Whilst it is understood how this conclusion would naturally emerge from the findings, the suggestion that an incident specific, culturally relevant, mutually exclusive approach is required appears to negate the rationale for a model *per se*. Rather, it is suggested that the action-systems model does not offer a comprehensive understanding of the motivations underpinning critical incident engagement. Moreover, it is argued that current understanding cannot be enhanced via repeated attempts to classify complex behaviours based on overly general or simplistic conceptual models. As such, it is suggested that there is a need to develop a theoretically driven model of understanding regarding the motivations of critical incidents from a sociocultural perspective, and which lends itself to individualised application, which forms the key aim of this PhD thesis.

Categorisation of critical incidents has also been attempted by delineating variables from database recording systems or reported statistics (i.e., Mohandie & Meloy, 2010; Nieboer-Martini et al., 2012). Whilst the value of this is recognised, it is argued that this is yet another inverse approach. Attempting to conceptualise critical incidents based on the way they are recorded and reported arguably increases vulnerability to subjective perception and appraisal. Moreover, it appears somewhat impossible to rule out factors such as attentional bias and other reporting limitations and inaccuracies, which have been well captured in existing literature (i.e., Alexander, 2011; Lipetsker, 2004). The current lack of a model or framework of understanding further exacerbates the risk, as recording and reporting procedures may be influenced by limited understanding. Thus, it is further hoped that the development of a model of understanding can complement and contribute to existing work that focuses on improving reporting and recording systems within forensic practice in the UK.

Often, critical incidents are conceptualised as being a manifestation of psychological symptomatology or psychiatric diagnosis. Whilst there is limited empirical research in this area which suggests an *association* between mental health difficulties and critical incident engagement in some cases, this does not amount to causation (Ireland et al., 2015). As such, caution should be taken when conceptualising engagement in critical incidents as a bi-product of mental illness (Ireland et al., 2015). Instead, and to avoid potential reductionism and stigmatisation, there should be greater focus on the individual factors, and/or broader factors associated with functioning, as opposed to diagnostic constructs. Obtaining contextual information regarding the individual's situation and presenting challenges, rather than focusing predominantly on psychiatric diagnosis or psychological dysfunction, is fundamental to this process (McManus et al., 2016). This is further discussed in chapter three of this thesis.

Critical incident engagement may also be conceptualised as mental health related by police officers in the community. Based on the perception of the responding officer, it is argued that a critical incident could potentially be considered a '*mental state related incident*'. The 2019 National Police Chiefs' Council and College of Policing definition of such incidents is '*Any police incident thought to relate to someone's mental health where their vulnerability is at the centre of the incident or where the police have had to do something additionally or differently because of it*'. As such, this offers a further conceptual construct, which depending on the presenting nature of the critical incident, may be of relevance. An example of this could include smaller scale incidents where mental health is considered a prevailing factor, particularly where such incidents are resolved in a timelier manner, or with the requirement for fewer resources. Nevertheless, it is possible that categorisation of critical incidents solely as a '*mental state related incident*' may further compromise understanding of the true prevalence and nature of critical incident engagement.

Finally, critical incidents may be conceptualised as being systems-related events. This may be due, in part, to the specific focus on critical incidents in secure settings, where policy and procedural guidance specifically capture such events. This is somewhat unsurprising given the significant nature of critical incidents, and the requirement for effective risk management and clear guidelines regarding procedural response (Ireland et al., 2015). Nonetheless, this can lead to the mis-conceptualisation that critical incidents are exclusive to forensic settings, or indeed only relevant for those who have contact with forensic practice and systems. Attributing engagement in critical incidents solely to system-related factors or failures is likely to increase the likelihood of other conceptually relevant factors receiving less attention.

Further to the 'systems related' explanation of critical incident engagement, Boin & Rattray (2004) proposed a 'Threshold Model' to account for why prison riots can occur, suggesting that this form of protest can occur as a result of institutional malfunction and administrative failures that compromise safety mechanisms. Whilst this model is not supported by empirical evidence, and is currently hypothetical, it does account for external factors associated with critical incident engagement, and which are rarely accounted for in the literature. However, it does not capture the role of individual factors relevant to critical incident engagement, nor does it account for the interplay of internal and external factors. As such, research to date has failed to adequately explore the functions that such incidents can serve, and where greater focus has been awarded to situational or contextual factors (Neller et al., 2021), and the associated wider organisational impacts (Boin & Rattray, 2004).

Whilst the dimensions, conceptualisations, and classification systems captured within existing literature are useful for categorising the broad types of critical incidents that can occur, they offer little insight into the specific motivations of individuals engaging in critical incidents, which is arguably fundamental to informing effective management, individualised psychological formulation, and targeted intervention. Previous research has arguably

highlighted the complexity and challenge in conceptualising critical incident engagement based on a small number of motivating factors (Crighton, 2015), and perhaps this is an unachievable task (Hempenstall & Hammond, 2018). As such, this thesis proposes a model of understanding which identifies a range of pertinent factors that should be subject to individualised appraisal and application.

It is suggested that more can be understood in this field by extending and further developing the focus on ‘*what* factors may lead to critical incidents’ to ‘*why* is critical incident engagement more likely for some than others?’. Indeed, more recent research by Grubb (2020) focussed on the *who*; sociodemographic and behavioural profile of subjects, the *what* and *where*; contextual and situational factors of critical incidents, and *how* incidents are managed or resolved. The current thesis aims to add to this by exploring *why* critical incidents may occur in the first instance, and it is hoped that this will foster the development of an additional subset of conceptualisations, which will support both prediction and management, whilst also recognising the range of contributory individual, socioenvironmental, and protective factors. Moreover, it is argued that the current broad and non-consistent approach to defining and conceptualising critical incidents poses substantial challenges in regard to understanding the true prevalence, and in turn, this poses implications for recording and reporting procedures.

2.3 Prevalence of critical incidents and key considerations

Due to differences and discrepancies in the recording and reporting of critical incidents, it is difficult to ascertain accurate rates of prevalence (Völlm et al., 2013), thus there is no clear indication as to the true nature and extent of such events across settings. A common observation across all settings is that the majority of those engaging in critical incidents are ‘repeat offenders’ who reflect a minority of the population (Yeager & Roberts, 2015). Up until more recently, there was no standardised or centralised database capturing rates of engagement in

critical incidents across the UK, thus limiting the scope for detailed analysis. Whilst some police forces, for example in Scotland, recorded information in locally managed databases following the occurrence of critical incidents, the accuracy and reliability of data has been challenged (Alexander, 2011). Following the identified need for change (i.e., Grubb, 2016), there has, however, been a valiant effort to address this in the UK via the development of a standardised electronic web-based system, the National Negotiator Deployment Database (NNDD).

The NNDD was piloted in 2015, and subsequently rolled out across the majority of police forces in England, Wales, and Northern Ireland in January 2018 (Grubb, 2020). Nonetheless, whilst the development of the NNDD is a welcome introduction and forms the basis of more recent prevalence statistics reported in this thesis, this approach is very much in its infancy, and as such, exploratory analysis is largely descriptive at the current time. Moreover, due to the sensitive nature of data, this centralised database is understandably currently subject to authorised access, and likely does not capture the vast majority of incidents occurring in specialist settings, and which are often managed internally. Nonetheless, it certainly provides a platform for future analysis and academic insight. Processes in other countries, such as the USA and Quebec, allow for *some* analysis of prevalence (e.g. Lipetsker, 2004; Michaud et al., 2008). For example, the Federal Bureau of Investigation (FBI) manage a central database for recording critical incidents, the Hostage Barricade Database System; HOBAS. Nonetheless, it is highly unlikely that reported prevalence rates are reflective of UK statistics, moreover, the HOBAS recording procedures have come under scrutiny and significant doubt has been cast on the validity and reliability of data (Alexander, 2011; Lipetsker, 2004). This is somewhat unsurprising, not least given the aforementioned definitional and conceptual challenges.

Critical incidents within secure settings are fortunately rare occurrences (Hatcher et al., 1998; Phillips, 2011) and they are infrequently reported in high secure hospitals in England (Völlm

et al., 2013). However, when they do occur, they are often substantial and can receive significant public attention (Völlm et al., 2013). The environment in which a critical incident occurs can impact both actual and reported prevalence. The high level of supervision within secure settings may reduce the prevalence of critical incidents in some instances. However, the knowledge and experience of consistent daily routine may provide individuals with the opportunity to plan and execute such incidents with maximum impact and minimal, or delayed, risk of detection (Fullard, 2007). Nonetheless, critical incidents occurring in hospital or prison settings may not be accurately captured in prevalence rates, as third-party professionals, such as the police, are rarely informed unless a criminal offence is considered to have occurred. Even when an offence is considered to have occurred, this is often dealt with through internal systems and procedures, thus incidents are rarely captured within official crime statistics.

Critical incidents are more likely to be perpetrated by men than women in secure settings (Feldmann, 2001; Mailloux & Serin, 2003; Völlm et al., 2013), however, this is likely owing to the disproportionate number of men residing in secure settings in comparison to women (Lewis & Ireland, 2019). The vast majority of existing research and data posits that most perpetrators are younger males (Alexander, 2011; Bond, 2020; Booth et al., 2010; Feldmann, 2001; Michaud et al., 2008; Mohandie & Meloy, 2010). Gender differences are also observed in critical incidents occurring in the community. Grubb (2020) noted that most incidents recorded on the NNDD requiring hostage and negotiation deployment during 2015 and 2016 involved male subjects ($n = 120$; 72.3%), with 24.1% ($n = 40$) of incidents involving female subjects, and subject gender being unrecorded in 3.6% ($n = 6$) of the incidents.

Data pertaining to the age of those engaging in critical incidents in the UK is very limited, yet the general trend is that those engaging in critical incidents in both community and prison settings tend to be younger (Bond, 2020). Grubb (2020) reported that the modal age category for both male and female participants in their community sample was the 20 – 29 years

category. This included 36.8% ($n = 42$) of male subjects and 35.0% ($n = 14$) of females sampled. The next most frequently occurring age category for female participants (30.0%; $n = 12$) was the age 10-19 years category, and for males (31.6%; $n = 36$) this was the age 30-40 years category (Grubb, 2020). This data suggests that women tend to engage in critical incidents at a younger age than men, yet it is acknowledged that the prevalence of males ($n = 114$) engaging in critical incidents, as reported in this study, was much higher than females ($n = 40$), which also reflects existing prevalence trends (Grubb, 2020). In a Scottish study, Alexander (2011) reported that 72% of hostage and crisis incidents included individuals between the age of 21 and 44 years. Similar trends were also observed in secure settings, for instance, Bond (2020) found that 76.4% of perpetrators and colluders were under 30 years of age, and 94.9% were under 40 years of age. Age differences in those engaging in critical incidents clearly warrants further exploration; it is hoped that this will be facilitated by improved reporting and recording systems, and the full operationalisation of a UK standardised and centralised database.

Further to this, it is difficult to determine the true prevalence of critical incidents within the community, as such incidents do not always result in criminal prosecution, particularly where mental health factors are present. Critical incidents may be recorded more broadly as mental health related incidents when individuals considered to be in crisis are placed under sections 135 or 136 of the Mental Health Act, 1983. The way in which the incident is recorded and subsequently responded to has significant impacts on the individual. Not only can this potentially result in involvement with the criminal justice system, but it can also impact future placement identification, risk management procedures, and decision making regarding the appropriate level of supervision required. 'Mental health related incidents' represent approximately between five and eight percent of police reported incidents (Kane et al., 2021). It is not currently possible to determine the percentage of this statistic that would reach the

threshold for the definition of a critical incident, yet caution must be exercised, as these statistics only relate to incidents that are formally recorded by the police.

Even when criminal repercussions are involved, official crime statistics do not specifically categorise many critical incidents as an offence type. Therefore, critical incidents may be captured under the subdivisions of ‘violent crime’, ‘anti-social behaviour’, ‘public disorder and weapons’, ‘criminal damage’ or ‘other crime’, depending on the presenting features of the incident. Moreover, two out of three critical incident types focussed on as part of this thesis are not captured explicitly within UK law. For example, in the UK, there is no crime of hostage-taking (Alexander & Klein, 2009). Such incidents may be categorised and recorded as kidnapping or false imprisonment under English law, abduction under Scottish law, or even as a terrorism related offence, depending on the nature of the incident (Alexander & Klein, 2009). Barricading is also unlikely to be explicitly captured within official crime statistics and is more likely to be defined as misconduct within forensic settings, and as a mental health related incident within the community. That is not to criticise such approaches to recording and reporting, yet the aforementioned factors do yield many challenges in regard to fully understanding the true nature and extent of the critical incidents relevant to this thesis.

Protest situations are captured within UK law, however this is further complicated, as the right to protest is protected by the European Convention on Human Rights (*Offences during Protests, Demonstrations or Campaigns, The Crown Prosecution Service, n.d.*). Nonetheless, and as is the case with barricade and protest situations, there is an inevitable overfocus on recording offences perpetrated within the context of critical incidents. This may include the perpetration of public order offences, offences against the person, criminal damage, hate crime, causing public nuisance, wilful obstruction of the highway, or trespassing, again depending upon the nature and circumstances of the incident. Thus, in all three types of critical incidents focussed on as part of this thesis, there is significant potential for a skewed or flawed

representation of critical incidents within official crime statistics, thus rendering it impossible to ascertain the full extent and prevalence of critical incident engagement.

There are *some* statistics available in regard to critical incidents occurring in HMP prison settings. Between 2020 and 2021, 138 incidents of ‘concerted indiscipline’ were recorded across UK prisons (Ministry of Justice: HMPPS Annual Digest, 2021/22). Furthermore, 1273 barricade or prevention of access incidents, 4157 incidents at height, and 39 hostage incidents were recorded (Ministry of Justice: HMPPS Annual Digest, 2021/22). Whilst this offers some indication of prevalence, it does not consider critical incidents occurring in private correctional establishments. These statistics also fail to capture critical incidents occurring in other correctional facilities, such as approved premises or rehabilitation placements, and which likely have localised recording systems and procedures.

Issues impacting reported prevalence include the way an incident is perceived by the responding individual or agency, which can be further impacted by an overfocus on the consequences of the event, as opposed to the wider factors impacting engagement. Critical incidents may not be recorded specifically as such and are arguably more likely to be captured as criminal elements occurring during the context of the event, such as public disorder offences, criminal damage, or anti-social behaviour. Recording may also be impacted by the response to the incident. For example, incidents may be more likely to be recorded where a tactical response was implemented, and there is often more focus on the imminence of risk and criminal aspects of the event. This may be due to the perceived need to justify the proportionality and appropriateness of the response, as based on presenting behaviour and risk.

2.4 Concluding comments

This chapter has outlined the various challenges related to accurately defining and conceptualising critical incidents, and which are likely associated with difficulties in

ascertaining both the actual and reported prevalence of critical incidents. Issues pertaining to effective management of critical incidents have been discussed, with recognition of the profound impacts that this can have on all stakeholders. This includes individuals presenting in crisis and conflict, and those responsible for the management of critical incidents and wider decision-making. A key theme that is central to the various issues discussed in this chapter is the lack of knowledge and clear understanding regarding the range of internal and external vulnerability, protective, and motivating factors. These are discussed in further detail in chapters three and four of this thesis.

CHAPTER 3. VULNERABILITY AND PROTECTIVE FACTORS FOR CRITICAL INCIDENT ENGAGEMENT

3.1 Structure of this chapter

This chapter firstly provides an overview of vulnerability and protective factors, and the benefits of attending to these are emphasised. Following this, a range of vulnerability and protective factors considered relevant to critical incident engagement are discussed, and with reference to the limited existing literature. As the protective/risk-enhancing nature of the discussed factors is argued to be largely dependent on individual and situational aspects, factors are discussed across four overarching areas. There were identified as core themes following a review of available literature: (1) psychopathology, (2) coping and problem-solving skills, (3) cognitive appraisal, attitudes, and beliefs, and (4) psychological resilience. This chapter argues that the influence and impact of sociocultural factors, combined with the salience to the individual, can determine whether conditions present as vulnerability or protective factors. It is further argued that a range of vulnerability and protective factors are relevant to critical incident engagement, and that greater recognition of such factors is required to support the effective prediction and management of critical incidents.

3.2 Protective, promotive, and vulnerability factors

Protective factors are conditions or attributes (e.g., skills, strengths, resources, social supports, inhibitory thoughts, or coping strategies) that interact with risk factors to help individuals deal with adversity more effectively (Baglivio et al., 2020; Farrington & Ttofi, 2012; Luthar 2006; Masten et al., 2021). Protective factors have variable effects depending on the level of risk or adversity, with greater influence observed as levels of risk/adversity increase (Masten et al., 2021). A protective factor can be conceptualised as a characteristic or resource that can reduce

the likelihood of problematic or offending behaviours (Durrant, 2017; Farrington & Ttofi, 2012). Those who have the skills, resources, and opportunity to achieve personal goals through legitimate means are less likely to engage in maladaptive behaviours (Durrant, 2017).

Protective mechanisms are described as resources for resilience at an individual, family, and social/environmental level (Masten et al., 2021; Olsson et al., 2003). Fleming & Ledogar, (2008) also identified an additional category of cultural resources. It is argued that in referring to protective factors or mechanisms, many scholars are, in fact, referring to the protective effects of such resources at an individual level, and which is dependent upon the risk context (Masten et al., 2021). Indeed, it has long been accepted that a variable can have a positive effect in one context and serve a vulnerability effect in another context (Rutter, 1987). Hence, there is little value in attempting to delineate a specific list of risk and protective factors pertaining to critical incident engagement, as these are likely to interact and vary at an individual and contextual level. Similarly, variation may also occur in respect of promotive factors, which refer to resources that foster adjustment independent of presenting risk or adversity (Masten et al., 2021; Patel & Goodman, 2007). Promotive factors refer to factors that enhance well-being and adjustment, thus disrupting the path to adversity and negative outcomes (Zimmerman, 2013). Promotive factors may occur at an individual and group level, and are considered of equal importance to protective factors, which serve to modify the effects of risk factors (Patel & Goodman, 2007).

Individual protective/promotive factors are well captured within the literature. These include resources such as self-esteem, self-efficacy, problem-solving skills, flexible thinking styles, tolerance for distress and negative affect, established sense of self/identity, emotion regulation skills, and an internal locus of control (Masten et al., 2021; Olsson et al., 2003). Family factors include material resources and positive parenting styles, such as the presence of secure

attachments, parental warmth, and family cohesiveness (Olsson et al., 2003). Social/environmental protective/promotive factors include resilience resources presenting at a community level and/or reflecting a wider cultural system or context (Fleming & Ledogar, 2008). Context can refer to broader social and environmental conditions such as socio-economic status, geographic location, and level of cohesiveness, support, and restriction (Fleming & Ledogar, 2008). Community level factors include pro-social networks, pro-social modelling by peers and caregivers, access to opportunities for success and pro-social societal values (Masten et al., 2021; Olsson et al., 2003). Wider cultural resources include factors such as traditional language, approaches to healing, spirituality, and activities that are embedded in historical culture and heritage (Fleming & Ledogar, 2008). It is notable however, that protective and promotive factors are not simply the reverse or opposite of risk factors, rather it is the interaction of factors at a multi-systems level that is of relevance to offending or delinquency (Masten et al., 2021; Patel & Goodman, 2007).

The risk-protective factor framework posits that maladaptive behaviour, such as violence, is the accumulation and interaction of risk factors, either in the absence or outweighing of protective factors (Farrington et al., 2016; Wolfowicz et al., 2021). As such, a differential combination or balance of risk and protective factors can occur and interact for each individual, thus potentially accounting for differences in engagement in offending or analogous behaviours (Farrington et al., 2016; Folk et al., 2021; Masten et al., 2021; Walters, 2018). This may explain why some individuals with similar sociodemographic features engage in critical incidents, and others do not. Existing research regarding antisocial and/or maladaptive behaviours focuses more on causal or risk factors, rather than protective mechanisms (Baglivio et al., 2020; Lösel & Bender, 2003). Moreover, in clinical practice, there is often greater focus on remedial action, which can result in a reactive based ‘damage control’ approach to intervention (Baglivio et al.,

2020; Masten et al., 2021). More contemporary research focuses not only on aetiology, but also on opportunities for supportive action (Baglivio et al., 2020; Masten et al., 2021).

Currently, there is very little research that explores protective factors, such as the influence of strengths, social supports, positive behaviours, and inhibitory thoughts on critical incident engagement. Nonetheless, there appears to be a range of protective factors, processes or inhibitory cognitions that prevent or deter individuals from engaging in such incidents (Lösel & Bender, 2003). Fortunately, in the last two decades there has been increased attention on protective factors for violence (Jolliffe et al., 2016; Kashiwagi et al., 2018; Sabina & Banyard, 2015), particularly within forensic psychiatric populations (de Vries Robbé, de Vogel & de Spa, 2011). Focusing on protective factors has been pivotal in informing more balanced risk assessment, strengths-based interventions, establishment of future treatment needs, and in bridging the gap between risk prediction and prevention (de Vries Robbé, de Vogel & de Spa, 2011). It is plausible that many of the protective factors for violence apply to critical incident engagement, not least owing to the often-violent nature of such events and the elevated risk of violence associated with engagement (McMains & Mullins, 2014). Indeed, the identification and subsequent enhancement of protective factors provides scope for a more proactive strengths-based approach to preventing and managing critical incidents, which arguably offers an alternative means of risk reduction.

Research conducted by Daniels et al. (2010a) explored the mitigating factors of barricaded hostage situations in schools in the USA. Although this research relates to the school environment, it is the only known research, to the authors knowledge, to explore protective factors of critical incidents such as barricades and hostage taking. The findings of this research noted that an important protective factor in relation to such incidents is 'breaking the code of silence'. This could refer to situations where others know of the impending incident and inform people who are able to prevent it. Moreover, it could refer to the perpetrator informing the

relevant people who are then able to mitigate the incident and assist in the provision of appropriate support. Daniels et al. (2010b) found that school conditions that cultivated a safe and trusting environment served a protective mechanism. This protective school climate included efforts to break the code of silence, treating students with dignity and respect, and establishing meaningful relationships with students. Daniels et al. (2007) also found that the establishment and utilisation of positive relationships with students was the most salient preventive factor. Whilst these findings relate to school environments, further research is required to establish whether the findings are applicable to other environments where critical incidents may take place, such as secure and/or community settings.

Academics in this field have recognised that it is a more optimistic and positive approach to improve understanding of why the majority of people do not engage in critical incidents as opposed to why the minority do (Alexander & Klein, 2009; Alison et al., 2015a). This is synonymous with peace literature, which encompasses the study of the mechanisms and mental processes that inhibit violence, facilitate non-violence, and promote values such as fairness, dignity, and respect (MacNair, 2003). Increased focus is thus awarded to factors that promote the non-violent resolution of conflict and pursuit of social justice, thereby reducing the likelihood of violence and fostering psychological healing (Christie & Louis, 2012; MacNair, 2003). Despite this, where focus has been awarded to protective factors in the field of critical incidents, there has been a sole emphasis on post event outcomes, such as preventing the onset of post-traumatic stress disorder in emergency personnel (Declercq & Palmans, 2006; Lee & Young, 2001; Perkonigg et al., 2000). Research to date has not focussed on what mechanisms may reduce the likelihood of individuals perpetrating critical incidents, or on identifying crucial points where protective factors can be fostered or strengthened.

Protective mechanisms are less obvious to detect than motivating factors (Lösel & Bender, 2003) and often information relating to protective factors can emerge post incident. Therefore,

it is important that research is designed to retrospectively capture protective factors, so that future critical incidents can be best managed and potentially prevented (Lösel & Bender, 2003). Increased understanding of the range of protective factors underlying critical incident engagement may also benefit the negotiation process. Negotiators may be able to identify and discuss protective factors that are present for the individual involved. This could influence peaceful resolution and highlight opportunities for supportive action, thus potentially reducing the likelihood of future engagement. Whilst enhanced understanding of protective factors has clear benefit, it is important to implement an individualised approach to assessment, as it is acknowledged that the mere presence of protective factors does not necessarily result in resilience in all cases (Fleming & Ledogar, 2008), particularly where increased vulnerability factors are present.

Within the context of critical incidents, vulnerability factors are described as characteristics or circumstances that increase an individual's risk of engagement. Vulnerability factors can be biological, psychological, economic, and/or social in nature, and they can vary depending on the individual, culture, and context. The identification of vulnerability factors can assist recognition of causal mechanisms or processes (Luthar, 2006). The terms risk and vulnerability factors are often used interchangeably in the evidence base. However, vulnerabilities are distinct in that they can interact with risk factors to modify and/or intensify an individual's reaction to risk (Luthar, 2006). Moreover, risk tends to be defined in terms of statistical probabilities, with higher risk conditions representing increased odds for maladjustment (Luthar, 2006; Masten, 2001). Not only does this pose challenges in regard to the absence of accurate data, as captured in Chapter two, but it is argued that focus on the vulnerability factors is less stigmatising for those who engage in critical incidents.

The evidence base regarding vulnerability and protective factors is limited, not least due to the definitional, conceptual, and recording issues discussed in Chapter two, but also arguably

because those who engage in critical incidents are not a typically homogenous group. Moreover, as previously discussed, many variables can function simultaneously as risk/vulnerability *and* protective factors (Lösel and Bender, 2003), and this arguably makes it more difficult to delineate between them. An example of this could be increased self-efficacy, which may serve as a protective factor for critical incident engagement as individuals have greater perceived competence of meeting needs through adaptive methods, or as a risk factor as individuals have greater perceived ability to successfully perpetrate a critical incident. There are also difficulties in exclusively categorising factors as either vulnerabilities or protective mechanisms, as what may be a protective factor for one individual may be a vulnerability factor for another (Lösel & Bender, 2003). An example of this could be the influence of social networks or relationships that may encourage peaceful resolution, or indeed may be the catalyst for the initiation of the event.

Furthermore, some factors that may be considered 'protective' could result in a change in the type of critical incident. For example, if a negotiator attempts to encourage an individual who has taken a hostage to release them by drawing similarities between them and a family member (to humanise the hostage), they may release them, but a barricade situation may then emerge, and as the perpetrator remains. In addition, an over focussing on protective factors such as resilience and ability during the negotiation may have the opposite effect of empowering the individual to continue the event, thus increasing the potential of damage and violence. As such, this thesis does not suggest that there is a distinct list of functions and protective factors but posits that enhanced awareness of the range of contributing factors, coupled with the acceptance that these can interact and significantly vary, will benefit overall understanding.

Current understanding of vulnerability factors in respect of critical incidents is largely limited to challenges associated with coping, adversity, substance use, and limited social support. Not only is very little known about the specific impacts of these areas on critical incident

engagement, but it is also likely that additional vulnerability factors are present. Similarly, there has been very little focus on the protective factors for critical incidents, particularly from the perspective of the perpetrator. This also mirrors the wider literature relating to maladaptive behaviours, and which focuses more on causal or risk factors rather than protective mechanisms (Lösel & Bender, 2003).

It's important to note that vulnerability factors are not deterministic, thus not all individuals who present with the vulnerability factors discussed will engage in critical incidents. Moreover, it is important that caution is taken when considering and identifying related vulnerability factors, and unnecessary stigmatisation and/or blame attribution should be avoided. Care should be taken to ensure that typically endorsed stereotypes of critical incident engagement are not reinforced, such as engagement as a form of 'attention seeking'. The concept of soft determinism also appears relevant to critical incident engagement. This posits that human behaviour is determined by a combination of environmental and internal factors, but that individuals still have a degree of free will and agency (Baumeister, 2008). As such, behaviour and decision making can be guided and determined by individual factors (Van Gelder, 2013). This may also account for the varying prevalence discussed in Chapter two, despite the presence of common or shared vulnerability and protective factors.

Nonetheless, greater understanding of vulnerability factors can assist the identification of individuals who may be at increased risk of engagement. Moreover, and as discussed in Chapter two, this can support the prediction of critical incident engagement, particularly as the only appropriate method for currently doing so relies on clinical judgement. Similarly, protective factors do not necessarily prevent the occurrence of critical incidents, yet such factors can assist the promotion of resilience and effective coping. Moreover, protective factors can decrease the likelihood of problematic behaviours (Durrant, 2017) The identification of both vulnerability and protective factors will likely be useful in informing both preventative

and post-incident interventions. Indeed, it has been noted that interventions focussed on promoting and increasing protective factors can be more effective than those solely aimed at reducing risk (Durrant, 2017). The following sections include discussion of both vulnerability and protective factors, captured across four key areas: (1) psychopathology, (2) coping and problem-solving skills, (3) cognitive appraisal and beliefs, and (4) psychological resilience.

3.3 Psychopathology

According to the Diagnostic and Statistical Manual of Mental Disorders (American Psychiatric Association, 2013), psychopathology encompasses a wide range of mental health challenges, including anxiety disorders, mood disorders, personality disorders, psychotic disorders, substance use disorders and psychological trauma. These conditions are often associated with distress, functional impairment, poorer well-being, and reduced quality of life (American Psychiatric Association, 2013). It is plausible that psychopathology may influence critical incident engagement via various mechanisms, for example, individuals with certain symptomatology may be more impulsive and/or may have impaired coping or emotional regulation abilities. Furthermore, in some cases, delusional beliefs, paranoia, or command hallucinations may precipitate engagement in critical incidents (Alexander & Klein, 2010; Coid, 2002; Fuselier, 1988). Nonetheless, it is imperative to note that not all individuals who experience such psychopathology engage in critical incidents, and *vice versa*.

In the context of critical incidents, research has tended to combine different aspects of psychopathology, thus resulting in difficulty in understanding the specific vulnerability factors. Moreover, incidents overtly characterised by mental health symptomatology, or perpetrated by those with mental health diagnoses, are often grouped under the definition of '*emotionally disturbed*' or '*mental health precipitated*' incidents (Alexander & Klein, 2010). Whilst this enables a basis for comparison, it does not provide a nuanced understanding of the specific

mental health factors at play. Currently the empirical evidence is complex (Daniels et al., 2016), inconclusive (Daniels et al., 2010b), and it is too limited to make reliable observations regarding the influence of psychopathology on critical incident engagement (Lewis & Ireland, 2019).

There is currently limited up-to-date literature regarding the prevalence or impacts of mental illness in those who engage in critical incidents (Lewis & Ireland, 2019). Research conducted over 4 decades ago estimated that approximately 50 percent of individuals engaging in critical incidents experienced challenges in regard to mental health and/or emotional challenges relating to personal problems or disputes (Fuselier, 1988; Strentz, 1985). A recent UK study conducted by Grubb (2020) found similar rates of prevalence, reporting that 44.6% ($n = 74$) of community critical incidents were precipitated by the presence of a 'psychological disorder'. Nonetheless, the specific nature of the psychological disorder was not reported and there is a lack of any formal diagnosis provision. It should also be recognised that the presence or contribution of mental health factors may not have been readily apparent to reporting officers, who often receive limited training regarding mental health. Moreover, and as is the case with other research, there is a likely potential that some critical incidents were associated with psychopathology, despite this not being explicitly recognised, recorded, and/or formally diagnosed.

Other studies have found higher rates of prevalence, for example, Feldmann (2001) conducted a descriptive study of 120 community hostage and barricade incidents occurring in Kentucky, USA. Formal primary and secondary psychiatric diagnosis (including substance use diagnoses) was reported in 97% of perpetrators, and 19% of cases were categorised as being perpetrated by mentally ill individuals where no other motivation was determined to be present (Feldmann, 2001). It was further reported that over one-fifth of the sample had a formal diagnosis of depression, 6% of individuals had a diagnosis of schizophrenia, and around one-fifth of the

sample were taking psychotropic medication at the time of the incident (Feldmann, 2001). These statistics may be impacted by the authors approach to categorising presenting diagnoses, and where the salience of co-morbidity is unclear. Nonetheless, this descriptive study adds to understanding, in that it attempts to further explore the specific aspects of mental illness, that were previously viewed as a collective entity.

It is recognised that individuals with mental health issues may be more likely to engage in *certain* critical incidents, such as hostage-taking, in response to ‘disturbed mood’ and thinking style (Alexander & Klein, 2010). Indeed, research has identified the high prevalence of formally diagnosed mental disorder amongst hostage-takers, and mental disorder has been associated with incident outcomes (Feldmann, 2001; Völlm et al., 2013). Nevertheless, variation has been found. Daniels et al. (2016) conducted a systematic review of the literature on mental illness and hostage taking and found that there is a complex relationship between mental illness and hostage taking, and that mental illness alone is an insufficient predictor of hostage-taking behaviour. However, the study also found that individuals with mental illness who engage in hostage taking may have different motivations and goals than individuals without mental illness.

Specifically, Daniels et al. (2016) found that individuals with mental illness who engage in hostage taking may be more likely to have delusional beliefs, to be motivated by a desire for attention or to express political or religious beliefs and are less likely to negotiate or seek peaceful resolution to the situation. The study also found that mental health intervention may be effective in preventing hostage taking behaviour in some cases. Due to the ‘extreme’ nature and rare occurrence of critical incidents, it is possible that critical incident engagement may be more likely to be associated with the acute experience of psychopathology and thus impacted by *severity* of psychopathology. Despite this, an English study within a high secure psychiatric population found that none of the hostage-taking incidents were driven by *acute* symptoms of

mental illness (Völlm et al., 2013). Whilst this was a small sample size ($N = 4$), it did represent all hostage-taking incidents over a 25-year period within a specialised sample. This study highlights that even in contexts where psychopathology is highly prevalent, critical incident engagement cannot be automatically assumed to be associated with acute mental health symptomatology.

Nevertheless, it is possible that, whilst acute symptoms are not always directly related, psychopathology may *indirectly* influence critical incident engagement, and this may be difficult to capture in the research base, particularly via quantitative research methods. As such, it is argued that qualitative research methods may yield a richer understanding of the specific mechanisms by which psychopathology may be associated with critical incident engagement. In addition, whilst psychopathology may indirectly impact engagement, it may also impact the *nature* of the critical incident. Indeed, in a large-scale study ($n = 534$) of barricade and hostage taking situations, Michaud et al., (2008) found that whilst the presence of psychiatric problems and/or a history of known suicide attempts was one of the most salient positive predictive factors of aggression towards oneself, mental health factors were not predictive of aggression towards others. Due to the significant variance in findings, it is perhaps more helpful to focus on the broader factors associated with functioning, as opposed to specific psychopathology (Ireland et al., 2015; Lewis & Ireland, 2019).

Despite inconclusive understanding, the role of psychopathology has been noted as highly relevant to critical incident management. For example, the importance of accounting for mental health factors during negotiation has been formally recognised by the Federal Bureau of Investigation (FBI) in the 1970's (Lewis & Ireland, 2019). This has resulted in the recruitment of mental health professionals who fulfil an advisory role regarding the functioning of the perpetrator, and the implications for negotiation strategies (Butler et al., 1993). Furthermore, published guidelines have been developed with specific recognition of approaches conducive

to negotiation with individuals with mental health difficulties (e.g., Strentz, 2017). This includes strategies such as the avoidance of emotionally laden topics, the use of sensitive/appropriate terminology, and the utilisation of distraction techniques (Strentz, 2017; Vecchi et al., 2005).

Further understanding the role of psychopathology and impacts on functioning is not only of importance for informing pro-active preventative approaches but is also crucial to informing negotiation procedures. Whilst police negotiators can rely on their emotional intelligence and experience, and this has been found to be increased in comparison to other police officers (Grubb, 2010), this may vary across person and context, particularly in the absence of a model of understanding. Indeed, it is important that negotiators do not over interpret or oversimplify the perpetrators behaviour (Mailloux & Serin, 2003), as this may conceal the driving factors and impede successful resolution.

Considerations have further extended past mental illness, and existing research into offender populations and personality has also found various associations between engagement in critical incidents and personality disorders (i.e., Coid, 2002; Feldmann, 2001). Feldmann (2001) found that antisocial personality disorder and borderline personality disorder were prevalent characteristics in hostage and barricade incidents, with these featuring in 20.7% and 9.3% of examined incidents, respectively. Coid (2002) also found that borderline personality disorder was highly reported amongst individuals engaging in hostage situations, and narcissistic personality disorder was associated with an increased likelihood of creating cell barricades. Coid (2002) also found that histrionic personality disorder was associated with poor stress tolerance and extreme reactive behavioural responses, further emphasising the importance of exploring the impact of psychopathology on functioning when considering critical incident engagement.

Mailloux and Serin (2003) also supported the notion that personality is central to engagement in critical incidents. They found that offenders engaging in hostage taking situations were more likely to be diagnosed with antisocial personality disorder, with only a small number of individuals presenting with major mental illness. These findings conflict with those of Coid (2002) and Feldmann (2001), which arguably suggests that looking at personality disorders may be too general, and that therefore focus should be on the exploration of specific personality *traits*.

Eysenck's PEN theory of criminality (Eysenck, 1970) outlined three core dimensions of personality; Psychoticism (P), Extraversion (E), and Neuroticism (N). It was argued that these traits were largely biologically determined and played a significant role in predisposing individuals to criminal behaviour (Eysenck, 1970). Ireland et al., (2015) found personality traits to be a significant predictor of critical incident engagement. They noted that extravert and agreeableness personality dimensions predicted engagement in critical incidents. However, as previously discussed, this research sampled a psychiatric forensic population and thus further research is required to identify whether these findings also apply to other forensic and community samples.

The findings of Mailloux and Serin (2003) also highlight the *potential* role of trauma on critical incident engagement, and where it was noted over a third of females responsible for hostage-taking and forcible confinement in Canadian secure settings had experienced sexual assault. Literature exploring the relationship between trauma and critical incident engagement is extremely limited, yet it is argued that this relationship is also bi-directional. Indeed, Yeager & Roberts (2003) state that individuals who are involved in or exposed to critical incidents may experience a range of traumatic responses, such as fear, acute stress, helplessness, and confusion, and which can increase vulnerability to post-traumatic stress disorder. As the response to trauma can vary significantly based on individual and situational factors, it is again

argued that greater emphasis should be on the impacts on functioning, as opposed to the mere presence of diagnostic constructs.

The pre-existing experience of trauma, or existing trauma symptomatology, may well increase an individual's vulnerability for engaging in high-risk behaviours, such as critical incidents. It is further argued that different types of traumas, such as developmental, complex, and collective trauma, may have differential impacts on critical incident engagement. All trauma types can have long-lasting effects on the mental health and well-being of affected individuals and communities, potentially resulting in a sense of loss, helplessness, disconnection, and oppression, as well as feelings of anger, guilt, and shame (Petruccelli et al., 2019; van der Kolk, 2014). Collective trauma can also impact the cultural and social identity of affected groups and may contribute to the intergenerational transmission of trauma (Petruccelli et al., 2019).

It is possible that different types of traumas are associated with different types of critical incidents, yet this requires further exploration. Moreover, positive adaptation following trauma and adversity, which is discussed later in this chapter, may well serve a protective function via the enhancement of both individual and community resilience (Petruccelli et al., 2019). Psychological trauma, and indeed other psychopathology, may heighten an individual's stress response, resulting in changes in the body's stress response system. Such changes can make individuals more sensitive to stress and prone to anxiety, panic, and hypervigilance. This heightened stress response may make it more difficult for individuals to cope with stress and may increase their vulnerability to subsequent psychopathology and/or critical incident engagement. Coping is further discussed in the following sections of this chapter.

In summary, the evidence base outlining the link between psychopathology is far from conclusive. As argued above, the exploration of individual factors associated with functioning will likely offer greater insight relating to vulnerability and protective factors. Moreover, it will

likely support the avoidance of stigmatisation and offer a more holistic understanding of factors that impact critical engagement, particularly for those who do not experience challenging psychopathology. As a starting point, this should include consideration of coping factors and problem-solving abilities, and which are captured in the ensuing section.

3.4 Coping, emotion regulation, and problem solving.

In addition to temperament and personality, protective factors outlined in existing literature include coping abilities, problem-solving skills, and effective use of social support (Campbell-Sills et al., 2006; Guay et al., 2006; Magwaza, 1999). Being able to identify effective solutions to problems is a fundamental aspect of adaptive functioning, not least given the potential for adverse outcomes related to problem avoidance (Buffie, 2022). The process implemented by individuals to comprehend, appraise, and adapt to daily problems is referred to as social problem-solving (SPS; D’Zurilla & Nezu, 1990). SPS is a cognitive process where individuals apply coping strategies to solve problems encountered in everyday life (D’Zurilla & Goldfried, 1971). The term *social* problem solving is not restricted to interpersonal interactions and relates to the interaction of the individual within the social context (Nezu, 2004).

Effective SPS has been found to correlate with social competence and adjustment (Heppner & Anderson, 1985; Nezu, 1985). Ineffective SPS has been found to correlate with poor social competence and psychological distress (D’Zurilla & Nezu, 2010). Problem solving abilities have also been found to be impaired amongst offender populations (McMurran et al., 2001). A five-factor theoretical model relating to SPS was first proposed by D’Zurilla and Goldfried (1971), and subsequently expanded and refined by (D’Zurilla & Nezu, 2010). The model identifies five problem solving styles that can identify an individual’s problem-solving strengths and weaknesses. This model underpinned the construction of the Social Problem-Solving Inventory (SPSI), which identified two SPS dimensions, and three problem solving

styles. The two orientation dimensions include *positive problem orientation* and *negative problem orientation*, while the three problem solving styles include *rational problem-solving style*, *impulsive/carelessness problem solving style*, and *avoidance problem-solving style* (D’Zurilla & Nezu, 2010)

It is plausible that a *negative problem orientation style*, where an individual has negative thoughts and feelings about problems and their own ability to solve them (D’Zurilla et al., 2002), may present a vulnerability factor for critical incident engagement. Conversely, a *positive problem orientation style*, where an individual has a belief in their ability to successfully solve a problem and perceives problems as challenges rather than a threat (D’Zurilla et al., 2002), may be a protective factor for such incidents. Individuals who adopt a *rational problem-solving* approach may perpetrate critical incidents that can be categorised as ‘conflict’ orientated, as a means of achieving a desired outcome. Conversely, a *rational problem-solving style* may be a protective factor that enables individuals to solve problems in a more rational and effective manner.

An *impulsive/careless style* may also increase the likelihood of an individual perpetrating a critical incident, as this problem-solving approach can result in individuals making sudden decisions that are not well considered and are not necessarily relevant to the actual problem (D’Zurilla et al., 2002). Research conducted by Ireland et al., (2015) found that an impulsive/careless problem-solving approach was a significant predictor of critical incident engagement. Nevertheless, poor problem-solving abilities have been found to be more prevalent where individuals experience mental illness (McMurrin et al., 2001) and have a diagnosis of personality disorder (Van Wijk- Herbrink et al., 2011). Indeed, SPS is a transdiagnostic construct, and which has been associated with both internalising and externalising forms of psychopathology (Bell & D’Zurilla, 2009; Jaffee & D’Zurilla, 2003, Siu & Shek, 2010). Thus, it may be that the findings of Ireland et al., (2015) emerged due to the

representation of participants diagnosed with a mental illness and/or personality disorder. Therefore, further exploration is required, firstly to determine if SPS is a salient factor associated with critical incident engagement, and secondly, to determine if this also applies to a non-psychiatric forensic population.

Research has found that individuals residing within forensic services also tend to experience impaired coping ability, in particular those residing in psychiatric settings (Dixit et al., 2011). The function of emotions is primarily to cue adaptive responses and to guide goal acquisition across contexts (Buffie, 2022; Nesse & Ellsworth, 2009; Ochsner & Gross, 2014), with this often underpinning coping styles and approaches. Nonetheless, our emotions are not always aligned with solution outcomes, and emotional experience can disrupt adaptive functioning (Gross, 2014). As such, regulating or coping with emotions can sometimes negate a solution focussed approach, and increase the likelihood of emotion focussed coping (Gross, 2014, 2015). Adopting an emotion-focussed coping strategy relates to where an individual focuses on the emotional aspect of a stressful situation, and rather than focusing on the problem or situation, attempts to control their associated emotions (Van Wijk-Herbrink et al., 2011). Emotion-focused coping is one of the most commonly identified coping styles of those residing in forensic populations (Gullone et al., 2000; Van Wijk-Herbrink, et al., 2011). Moreover, a critical incident can directly represent a maladaptive method of emotional coping (Ireland et al., 2015).

Emotion regulation refers to the monitoring, evaluation, and adaptation of emotional responding (Gross, 2014). Unsuccessful attempts at emotion regulation and emotion-focussed coping can often lead to the onset of further emotional responses, which can be equally or more stressful in nature (Elliot & Frude, 2001). Furthermore, an emotion-focussed coping approach can also impact psychological state factors and may lead to the onset of further distress, for example frustration and anxiety (Buffie, 2022). The role of emotion regulation is considered

crucial to the process of problem solving and coping, where this largely focuses on reducing or modifying the negative emotions generated by a presenting problem or situation (D’Zurilla & Nezu, 2010). The metatheory outlined by D’Zurilla and Nezu (2010) captures how effective problem solving extends beyond generating a solution, to also effectively managing associated affective responses and modulating emotions (Nezu, 2004). Gross (2015) outlines that emotional regulation involves recognition of situational features, understanding of antecedents and consequences, and motivation to attend to problem behaviours. Effective SPS is dependent upon how the individual evaluates possible responses in the context of their goals, and their level of self-efficacy in solving the problem (Bandura, 1991; D’Zurilla & Goldfried, 1971). Indeed, all stages of SPS involve modification of behaviour, cognition, and emotion, and to meet subjective goals (Buffie, 2022); it is argued that the social environment may impact these processes, thus impacting functioning.

Many social environmental factors can generate problems, negative emotion, and strains, thus potentially impacting social problem-solving ability (Buffie, 2022). Indeed, SPS ability can be impacted by environmental stimulus or an internal stimulus (D’Zurilla & Nezu, 2010). Brown and Ireland (2006) argue that incarcerated individuals often lack control over the means by which to cope. Those residing in secure settings may initially attempt to employ a solution-focussed problem-solving style, yet the successful application of this may be constrained by the environment. This may exacerbate frustration and perpetuate the use of an emotion-focussed coping style, which in turn may increase the likelihood of a critical incident. An individual’s ability to cope with stressful situations and manage their psychological state accordingly involves the implementation of various cognitive, emotional, and behavioural strategies (Folkman & Moskowitz, 2004). Some critical incidents, in particular those defined as crisis situations, may occur when the individual has limited coping strategies in place to deal with a stressful situation, or when their ability to cope is exceeded (Kotler et al., 1993).

An individual's inability to engage in their preferred coping strategy or utilise their chosen problem-solving skills may directly or indirectly result in engagement in a critical incident. For example, impaired/reduced coping may also result in the initiation of other maladaptive coping responses, for example substance use, and this may represent an indirect influence on critical incident engagement. In the context of critical incidents such as barricades, hostage situations or protests, substance use may increase the risk of impaired judgment, leading to errors or biases that can escalate the situation. Substance use can also increase aggression or violence, which can exacerbate conflicts and increase the risk of harm to those involved (Giancola, Duke, Morris, & Holt, 2013). Moreover, SPS is employed when the reactive action or solution will likely be ineffective or may produce negative outcomes/consequences (D'Zurilla & Goldfried, 1971). As such, critical incidents may occur in the context of impaired SPS ability, or where attempts at SPS have been unsuccessful. As such, in this context, critical incident engagement may be viewed through the lens of maladaptive SPS.

Conversely, the presence of particular emotional-regulation skills and problem-solving techniques may prevent the perpetration of critical incidents and serve as protective factors. One aspect that can support effective coping is the accessing and utilisation of social support. Lakey & Orehek (2011) found that social support has a beneficial impact on coping and problem-solving. Specifically, the authors argue that social support assists the regulation of emotional and cognitive processes by providing individuals with a sense of security and predictability in their relationships, which in turn enables them to engage in effective coping and problem-solving (Lakey & Orehek, 2011). Moreover, social systems that provide support during times of crisis and/or trauma can also support the maintenance and development of resilience in individuals (Sippel et al., 2015).

In summary, little is known about the influence of emotional experience/regulation, coping styles, and SPS skills in relation to critical incidents. It is important that future research focuses

on these areas as they may contribute to the limited understanding of presenting vulnerabilities and indicate potential protective factors which can likely be addressed via targeted intervention. Moreover, in addition to psychopathology, it is argued that cognitive processes, attitudes, and beliefs may influence the utilisation of particular coping and problem-solving styles. Indeed, SPS is considered a goal-directed process which includes behavioural, emotional, and cognitive components (Heppner et al., 2004).

3.5 Cognitive appraisal, attitudes, and beliefs

It is proposed that our past experiences, including psychopathology and coping experiences, can influence our cognitive style, attitudes, and core beliefs, which subsequently impact information processing (Beck, 1976) and SPS ability (Bandura, 1991; D’Zurilla & Nezu, 2010). Cognitive appraisal relates to the process of evaluating and interpreting a situation or event based on individual beliefs, values, and past experiences. This appraisal can have a significant impact on an individual's emotional and behavioural response to a presenting situation (D’Zurilla & Nezu, 2010; Nezu, 2004). Spada et al., (2008) outline that cognitive appraisal involves several steps, including; (1) *Primary appraisal*, where the situation is evaluated to determine whether it is relevant to one's goals and priorities, and whether it represents a threat, challenge, or opportunity, (2) *Secondary appraisal*, where ability to cope with the situation is evaluated and available resources are considered, and (3) *Reappraisal*, where the initial appraisal is revisited in light of new information or changes in the situation. This process of cognitive appraisal is considered key to critical incident engagement. For example, if an individual perceives a situation as a threat, they may experience fear or anxiety and may be more likely to engage in avoidance behaviours. Conversely, if an individual perceives a situation as a challenge, they may experience excitement or motivation and may be more likely to engage in action-focussed behaviours. Both action and avoidance processes have potential to result in critical incident engagement.

Exposure to aversive or challenging events can also result in negative self-schemas, such as self-denigration and depreciation (Nolen-Hoeksema, 2000). The perseverative cognition hypothesis (Nolen-Hoeksema, 2000) is a theoretical framework for understanding the relationship between exposure to aversive or challenging events, negative affect, and negative self-schemas. This framework suggests that exposure to prolonged stress and negative affect can lead to a persistent pattern of negative thinking and cognitive perseveration, which in turn can lead to negative self-schemas. Beck (2011) states that negative automatic thoughts and dysfunctional beliefs can lead to the development of negative attitudes and core beliefs. According to Beck (2011), negative automatic thoughts are often fleeting, subconscious cognitions that occur in response to environmental triggers, such as negative events or social interactions. Over time, negative automatic thoughts can become habitual, leading to the development of negative attitudes and core beliefs that are more resistant to change. This may explain why certain individuals repeatedly engage in critical incidents.

To gain a better understanding of the functions of critical incidents, beliefs and attitudes relating to triggering factors and the perceived purpose should be explored. Beliefs and attitudes pertaining to the perceived function of a critical incident may influence the behaviour of the individuals involved. The Theory of Planned Behaviour (Ajzen, 1991) posits that there is a link between attitudes and behaviour, suggesting that an individual's behaviour is pre-determined by their intention to perform that specific behaviour. Behavioural intention has been found to be the most significant predictor of behaviour (Ajzen, 1985) and is measured in terms of attitude towards the behaviour, subjective norms relating to the behaviour, and perceived behavioural control (Ajzen, 1991).

The Theory of Planned Behaviour (Ajzen, 1991) is helpful in increasing understanding of critical incidents and may offer an explanation as to why some individuals do or do not engage in critical incidents. Research has found that individuals seek consistency between their

attitudes and their behaviour (Ajzen & Fishbein, 2005; Rosenberg, 1960; Heider, 1958). Thus, those with negative attitudes towards critical incidents may be less likely to engage in that behaviour and vice versa. If the Theory of Planned Behaviour (Ajzen, 1991) applies to critical incidents, then by exploring and challenging positive attitudes towards engagement, there may be an opportunity to mitigate participation. In addition, the presence of negative attitudes may be a protective factor that prevents individuals from engaging in critical incidents in the future.

Attitudes and normative beliefs associated with critical incident engagement may serve either a supportive or inhibitory function. Indeed, Hughes et al., (2018) noted the importance of exploring beliefs supporting violence use, which was found to be related to hostage taking and riots when background factors were considered. Normative beliefs refer to an individual's beliefs or perceptions regarding the social norms or expectations surrounding a particular behaviour or action. These beliefs can be shaped by a range of factors, including cultural values, family and peer influences, media representations, and personal experiences (Ajzen, 1991; Fishbein & Ajzen, 2010). Normative beliefs can influence an individual's decision to engage in or avoid a behaviour. For example, an individual who believes that engagement in a critical incident is an effective way to solve problems or meet needs may be more likely to engage in this method. Alternatively, individuals who hold the normative belief that critical incident engagement is ineffective may be less likely to engage.

It is further suggested that exploration of inhibitory cognitions may be of relevance to critical incident engagement. Inhibitory cognitions are thoughts or beliefs that interfere with an individual's ability to engage in or pursue a desired behaviour or action. These thoughts can be conscious or unconscious and can arise in response to a range of internal or external factors, such as anxiety, fear, past experiences, or societal norms (Beck, 2011; Tiego et al., 2018). Addressing inhibitory cognitions often involves identifying and challenging the underlying beliefs or assumptions that are driving these thoughts.

In summary, little is known about the influence of cognitive appraisal, attitudes, and beliefs on critical incident engagement, thus this warrants further research. The lack of qualitative research in this area may account for the limited understanding regarding the impact of inhibitory thoughts, attitudes, and beliefs on critical incident engagement, as such factors are difficult to capture using quantitative research methods. Despite this, it is argued that normative beliefs, attitudes can serve as both vulnerability and protective factors. Moreover, it is argued that such factors may be associated with psychological resilience, which is discussed in the following section.

3.6 Psychological Resilience

The term resilience is derived from the Latin verb *'resilire'*, meaning to 'rebound' or 'spring back'. The American Psychological Association (APA) defines psychological resilience as the *"process of adapting well in the face of adversity, trauma, tragedy, threats or even significant sources of stress"* (American Psychiatric Association, 2013). Other definitions capture the psychobiological processes involved in regulating challenging emotions, and the capacity to cope and adapt when certain neurological systems are under threat (Southwick et al., 2014). Resilience occurs when protective or promotive factors interrupt the trajectory from risk to pathology (Fergus & Zimmerman, 2005). As such, resilience can be conceptualised as a two-factor construct, comprising of both significant adversity and positive adaptation (Luthar, 2006; Masten, 2001; Masten et al., 2021; Sroufe, 2005; Yates et al., 2003). As such, an identifiable adversity must be present, thus distinguishing resilience from individual strengths associated with normative development (Luthar, Cicchetti & Becker, 2000).

Resilience theory (Masten, 2018) emphasises the dynamic interaction between individuals and their environments, and it recognises the complex interplay of biological, psychological, and social factors that contribute to resilience. Resilience theory also highlights the salience of

protective factors, such as positive relationships, social support, and effective coping strategies, in promoting resilience. Research on resilience theory emphasises the importance of managing an individual's immediate environment and nurturing protective factors, whilst also addressing presenting strains and stressors (Masten, 2018; Masten et al., 2021). As such, resilience is conceptualised as developing over time and protective factors can be cultivated through daily exposure to strains and stressors (Masten, 2018).

There are several models of resilience that have been proposed in the literature, with each of these outlining a range of protective/promotive and environmental factors. For instance, Broffebrenner (1979) developed a comprehensive theoretical framework, the 'Bioecological Model of Human Development', which outlines the dynamic and bi-directional role of multiple systems. This model differentiates between protective factors at an individual level (microsystem), within interpersonal relationships (mesosystem), at a community/societal level (exosystem) and at a historical/cultural level (macrosystem), in promoting resilience. The 'Developmental Systems Model of Resilience' (Ungar, 2008) also emphasises the importance of context in supporting resilience, further recognising the interaction between adverse experiences, individual qualities, and the systems in which they are embedded. Similarly, the highly influential theoretical framework, the 'Core Components Model of Resilience' (Masten, 2014) outlines the 'five C' key components of resilience: competence, confidence, connection, character, and coping. Finally, the Risk and Resilience Model (Werner & Smith, 1992) emphasises the role of protective factors such as social support and coping skills in promoting resilience in the context of risk and adversity.

Other resilience models have also been proposed, with various protective and promotive factors identified. The models identified in the literature all represent one of three 'classes', with these described as compensatory, protective, and challenge (Fergus & Zimmerman, 2005). Compensatory models posit that resilience factors counteract risk factors, or act in the opposite

direction (Masten et al., 2021; McLaughlin et al. 2020). As such, the resilience factor has a direct impact on the outcome, and which is independent of the effect of the risk factor (Fergus & Zimmerman, 2005). Protective models propose that resources or assets mitigate, neutralise, or weaken the presenting risk or vulnerability factor(s) (Fergus & Zimmerman, 2005; Masten et al., 2021). The challenge model focuses more on the risks or the outcomes, noting that exposure to high- or low-level risks is associated with negative outcomes, whilst exposure to moderate level risk is related to positive, or less negative outcomes (Fergus & Zimmerman, 2005). These models emphasise the role of protective/promotive and vulnerability factors in fully understanding resilience.

Currently little is known about the role of resilience in engagement in critical incidents, however, the vital role of resilience when making rapid and challenging decisions at times of chaos is well recognised (Reivich & Shatté, 2002; Sahanowas & Haider, 2019). It is argued that resilience can play a crucial role in supporting adaptive coping, emotion regulation, critical thinking, and effective SPS, particularly in response to experienced stress, adversity, and psychopathology (Masten et al., 2021; Sahanowas & Haider, 2019). As such, it is argued that psychological resilience is of clear relevance to critical incident engagement. Moreover, it is suggested that psychological resilience can support recovery and coping following critical incidents, thus potentially buffering against further traumatisation and aversive symptomatology. Indeed, Friborg et al., (2003) found that specific protective factors, rather than the absence of risk or vulnerability factors, promotes resilience and enhances capacity to manage stressors.

Those described as possessing psychological resilience are better equipped to develop and implement effective coping strategies when faced with uncertainty, stress, and adversity (Masten et al., 2021; Reivich & Shatté, 2002). Psychological resilience can therefore assist coping in the moment, as well as serving as a buffer for long-term negative consequences or

psychopathology (Masten et al., 2021). Indeed, resilience has long been recognised to increase resistance to stress and lower the likelihood of an individual developing post-traumatic stress disorder (Herman, 1997; McLaughlin et al. 2020). Conversely, those who lack resilience are more likely to utilise maladaptive coping and/or problem-solving strategies (Reivich & Shatté, 2002), both at the time of strain and thereafter. Engagement in a critical incident is a clear example of a maladaptive response. Therefore, assessing levels of resilience can arguably highlight opportunities for supportive action and inform an individualised approach to treatment planning.

Resilience is outlined within the literature as an aggregate multifactorial construct, comprising of internal strengths and external resources interacting at an individual, family, community, and cultural level (Masten et al., 2021). Existing literature has identified several biopsychosocial factors as being associated with resilience, with some academics describing these as ‘developmental assets’ (Benson et al., 2006). These include, but are not limited to, a solution-focussed coping style, cognitive flexibility, perseverance, courage, optimism, positive affect, healthy lifestyle, adaptability, strong willpower, altruism, sense of purpose, and morality (Charney, 2004; Southwick et al., 2005; Southwick & Charney, 2012). Other researchers have identified a triad of resilience characteristics, including a task-oriented coping style, a firmly held belief in the ability to control life outcomes, and the means and ability to purposefully connect with others to support recovery (Reivich & Shatté, 2002). Whilst the identification of individual resilience factors is helpful in improving understanding and informing targeted intervention, it is important to consider the role of wider factors, such as the environment in influencing resilience across time and context.

Further challenges impacting understanding relate to the consideration of resilience as a stable, fixed, or blanket construct (Masten et al., 2021). More contemporary research identifies that resilience can be a dynamic process, which can vary and fluctuate depending on factors such

as context, level of risk, and age (Ledogar & Fleming, 2008). Indeed, it is not uncommon for individuals to demonstrate resilience in a specific domain, whilst simultaneously experiencing challenges in another area (Luthar, 2006). Moreover, the process of resilience can fluctuate over time and across the developmental trajectory (Masten et al., 2021; Rutter, 1990). As such, the avoidance of absolute and arguably reductionist terminology is important when describing resilience, and terms such as variable and/or relative resilience are recommended (Rutter, 1990).

Whilst it is acknowledged that resilience can fluctuate across the life trajectory, resources for resilience are often determined in childhood (Reivich & Sa, 2002). A complex interaction between a child's internal and external experiences is thought to determine resilience in adulthood (Reivich & Shatté, 2002). Events that can impact the development of resilience often occur externally, extending beyond the control of the individual. Moreover, some variables can have a direct influence on resilience and others present an indirect or mediating influence (Masten et al., 2021). Such events or experiences may include potentially traumatic events, ultimately those resulting in a threat to perceived or actual safety and predictability (Masten et al., 2021; McLaughlin et al. 2020). When faced with a new challenge or situation, our early experiences provide a template for analysis, from which subsequent behaviours operate reflexively (Reivich & Shatté, 2002). This may offer a potential explanation for why some individuals engage in repeated critical incidents and within different contexts.

Relational Developmental Systems theory (Lerner, 2006) may be applied to account for the multi-factorial nature of resilience, also capturing the environment as an influencing factor. This conceptual framework integrates principles of multiple psychobiological theories, which interact across context and the developmental trajectory, thus shaping human development (Lerner & Overton, 2008). Relational Developmental Systems theory (Lerner, 2006) includes

aspects of Ecological Systems theory (Bronfenbrenner & Morris, 2006), Developmental Systems theory (Lerner, 2006), Family Systems theory (Goldenberg & Goldenberg, 2013), Biological Systems theory (Lickliter & Honeycutt, 2013), and developmental psychopathology (Kim-Spoon, Cicchetti & Rogosch, (2013). As such, Relational Developmental Systems theory (Lerner, 2006) posits that it is the interactions and relations between the individual and environment which influence various aspects of human development across the lifespan (Lerner & Overton, 2008).

The Relational Developmental Systems model (Lerner, 2006) arguably provides a more holistic conceptualisation accounting for individual differences and complex interactions, rather than distinct entities acting independently. This has application for a range of human phenomena, which can be conceptualised as presenting across a continuum, and which can fluctuate across time and situation. Resilience has been described to exist on a continuum (Reivich & Shatté, 2002), with optimum resilience at one end of the scale, and suboptimum resilience at the other (Hunter & Chandler, 1999). Resilience at the individual level appears to be dependent upon the interaction of multiple systems functioning simultaneously. Indeed, research has highlighted that the *“capacity for adaptation of an individual will be distributed across interacting systems”* (Masten 2014: p.9). Relational Developmental Systems (Lerner, 2006) models emphasise the often complex and dynamic relationship between individual characteristics and the surrounding environment (Geldhof et al., 2014; Lerner et al., 2011). Understanding the complex relations between individual and context is at the core of fostering adaptive developmental processes, which are of clear benefit to both the individual and environment (Lerner et al., 2011). In relation to critical incidents, this may include identification of both individual and environmental factors that impact resilience, thus potentially increasing or decreasing the likelihood of engagement.

Traditionally, resilience has been evaluated based on positive outcomes, such as adaptive developmental outcomes despite a high level of risk, maintenance of competence where stressors are present, and trauma recovery (Werner, 1995). More recent research has highlighted that resilience outcomes can be relative to the psychosocial risks or impacts of the adversity experienced (Rutter, 1999, 2000; Rutter & Sroufe, 2000; Masten et al., 2021). Indeed, the transdiagnostic model of risk and resilience highlights that events can result in both positive and negative outcomes, and that an experience does not need to be positive to serve a protective mechanism (McLaughlin et al., 2020). Furthermore, the response or coping mechanism utilised following adversity is not always indicative of level of resilience (Rutter, 1999). This may apply to critical incidents in that they are often perceived to be a maladaptive coping strategy when an individual experiences crisis and/or conflict, therefore suggesting generalised impaired resilience when faced with interpersonal stressors.

Based on the conceptualisation offered by Rutter (1999), it is plausible to suggest that experience of a negative outcome, such as engagement in a critical incident following experience of adversity, can contribute to the subsequent development of protective factors, such as enhanced resilience. This is somewhat captured by research related to post-traumatic growth, or as it is also referred to in the literature, resilience reintegration. This concept posits that when individuals are confronted with adversity, this can result in subsequent growth (Ledogar & Fleming, 2008; Masten et al., 2021; Richardson, 2002). Further supporting the notion of resilience as a dynamic developmental process, Richardson (2002) states that resilience reintegration can occur following significant disruption and where resilient qualities are identified or strengthened. Therefore, rather than assuming that engagement in critical incidents is indicative of reduced or impaired resilience, it should instead be viewed as an attempt to cope with adversity, and as an opportunity for supporting professionals to enhance resilient characteristics.

Research has revealed that resilience serves four primary functions (Reivich & Shatté, 2002). These include (1) to *overcome* obstacles occurring in childhood, (2) to *navigate* everyday adversities, (3) to *adapt/recover* when faced with significant or unexpected subjective strain, and (4) to *connect with others* to maximise full potential (Masten et al., 1990; Reivich & Shatté, 2002). Skills for resilience can create the optimum conditions for enhancing emotional awareness, developing interpersonal skills, and ability to remain mindful in the moment (Reivich & Shatté, 2002). Resilience resources such as emotion regulation skills, interpersonal effectiveness, and implementation of mindfulness strategies are likely to serve a protective mechanism for engagement in critical incidents, including those categorised as both crisis and conflict.

More resilient individuals also tend to assess risk more accurately, distinguishing unreasonable risk from reasonable risk (Reivich & Shatté, 2002). Confidence to accurately interpret and respond to presenting risk or uncertainty provides a degree of safety, from which recovery from adversity can be fostered (Masten et al., 2021). This is relevant to the context of critical incidents, where perceptions of unsafety and a perceived lack of control often present as precipitating and perpetuating factors. Moreover, secure environments, in which critical incidents are more likely to occur, are often characterised by reduced levels of safety and predictability. Individual appraisal of risk can present a direct or indirect risk factor for engagement in critical incidents, thus enhancing resilience may support interventions designed to address or manage this.

Psychological resilience can be developed or enhanced over time (Reivich & Shatté, 2002), and this often forms a core treatment aim of many forms of psychological intervention. Despite this, the development of resilience is a unique and complex process, thus there is no universal or standardised approach to increasing resilience (Ledogar & Fleming, 2008). Similarly, resilience is considered an idiosyncratic phenomenon, which can pose challenges in respect of

measurement and conceptualisation (Infurna & Luthar, 2016). It is, however, important to recognise that whilst non-resilient thinking styles can be generalised, so too can resilience, thus extending the scope for supportive action across multiple domains (Masten et al., 2021). Resilience is not just reactive (Reivich & Shatté, 2002), thus resources for resilience can be broadened proactively, which in turn can enrich an individual's life whilst also modifying the template for future behaviours. This is considered highly relevant to the addressing and mitigation of critical incident engagement.

Non-resilient thinking styles can result in the formation of non-accurate beliefs, which may be generalised to a range of situations over time. Not only is this likely to increase risk across multiple domains, but it can also erode any existing valuable resilience resources (Reivich & Shatté, 2002). As such, whilst any measure of resilience should never be viewed in an absolute or universal manner, there is clear merit in assessing general resilience, if only to provide a baseline. Moreover, whilst resilience is challenging to quantify, and there is a clear need for intervention in this area to be individualised, it is imperative that non-resilient thinking styles are addressed in order to indirectly manage problematic behavioural outcomes, such as engagement in critical incidents. Therefore, despite a lack of research in this area, it is suggested that lower levels of resilience may present as a vulnerability factor for critical incident engagement, and increased levels of resilience may serve a protective function.

3.7 Concluding comments.

This chapter has outlined vulnerability and protective factors relating to critical incident engagement across four key areas: (1) psychopathology, (2) coping and problem-solving skills, (3) cognitive appraisal, attitudes, and beliefs, and (4) psychological resilience. Whilst current knowledge is inconclusive, and these factors are largely influenced by individual, social, contextual, and cultural factors, it is argued that improved understanding of these factors

supports further understanding of motivating factors, which are further discussed in Chapter four. It is suggested that enhancing understanding of the discussed factors in this chapter, alongside consideration of the relevance to the motivations of critical incidents is at the core of managing and mitigating engagement.

CHAPTER 4. THE MOTIVATIONS OF CRITICAL INCIDENTS AND SOCIOENVIRONMENTAL CONSIDERATIONS

4.1 Structure of this chapter

Much of the research pertaining to the motivations of critical incidents lacks theoretical underpinning, and existing research is largely anecdotal or preliminary/exploratory in nature. Despite this, it is argued that there are several theories that are relevant to critical incident engagement. These pertain to four key areas associated with motivation: (1) strain; (2) self-determination, comprising of autonomy, relatedness, and competence; (3) social learning and identity; and (4) the meeting of fundamental human needs. Therefore, this chapter evaluates several eminent criminological and socio-schematic theories that are further applied within this thesis. These theories are discussed with consideration to vulnerability and protective factors, and with attention to both individual (internal) and socioenvironmental (external) factors. It is concluded that none of the individual theories can fully account for critical incident engagement across person and setting, yet by combining the presented theories, it is suggested that understanding of salient motivating factors and socioenvironmental considerations is improved.

4.2 Exploring the motivation(s) of critical incidents.

Motivation is the term used to describe the underlying reasons for, function, or purpose of, certain behaviour(s) (Reiss, 2004). The term's 'function' and 'motivation' will be used interchangeably throughout this thesis. Motivation is the psychological construct that underpins the initiation, guidance, and maintenance of an individual or group goal-orientated behaviour (McInerney, 2019). In simple terms, the underlying motivation is what encourages an individual to act in a manner that brings them closer to a pre-determined goal or preferred state. It is noteworthy that the goal, or preferred state, may not be directly observable, thus

there is often a need to infer the motivation based on observable behaviour(s) (Nevid, 2013). This poses challenges in respect of critical incidents, as the current lack of a model of understanding may result in inferences based on subjective judgement and/or cursory appraisal. Further compounding this issue is the paucity of research regarding the motivations of critical incidents (Völlm et al., 2013) and the narrow focus on triggers, outcomes, and wider organisational factors within existing literature (Boin & Rattray, 2004).

Motivation comprises individual factors, such as biological, emotional, and cognitive elements, but also includes external social factors, which often interrelate resulting in the activation of human behaviour (Nevid, 2013). Indeed, the role of external factors on critical incident engagement has received *even* less attention in the literature (Hughes et al., 2018). Socioenvironmental factors can arguably affect a critical incident in terms of influencing functions *and* protective factors. Irrespective of whether an incident takes place in a community or in a secure setting, there will be socioenvironmental aspects to consider. These may include the presence of an audience, safety of the public, physical constraints, and procedural limitations etc.

Owing to the environment in which they present, organisational responses have the potential to be procedure focussed, controlling, and punitive, if not by design, then by default, (Walsh et al., 2012). Often the environment is uncondusive in supporting the successful management of a critical incident, and negotiators are often required to overcome a plethora of challenges (Alison et al., 2015a). Indeed, there are many environmental factors that may inform the cognitive processes of professionals involved in the management of critical incidents (Alison et al., 2015a). This is of significant relevance, as delays in decision making can result in delays in appropriate action (Alison et al., 2015b). Moreover, pressures such as time, stress, managerial pressures, accountability etc. may lead to a misunderstanding of the motivating factors of the incident and the protective factors that may assist the negotiation process.

In many situations, the environment can be a *direct* or *indirect* factor that may influence motivation. For example, a rule or procedure within a prison setting may be viewed as unfair and could *directly* result in a critical incident as a means of challenging a perceived injustice. Alternatively, an individual's inability to remove themselves from a particular environment (within a secure setting for example) may act as an *indirect* influence, as it inhibits them from utilising their preferred coping mechanisms or managing their emotions effectively. Arguably, direct and indirect effects may also be relevant to protective factors. For example, a change in environment may directly inhibit an individual from perpetrating an event (i.e., if they can't access a rooftop), or a more indirect effect may be observed. An example of this could be a service provision that is more nurturing and where a sense of physical and psychological safety is prioritised, thus alleviating an individual's perceived need to perpetrate a critical incident as a means of self-protection.

The relationship between internal and external factors and motivation can be complex and interdependent. Indeed, motivations often affect an individual's perception, cognitions, emotions, and behaviour; they may also reflect a person's values (Reiss, 2004). As such, fully understanding the motivations of an incident not only enhances understanding of a particular behaviour, but it is also pivotal to future behaviour modification. However, it is argued that the often significant and disruptive outcomes of critical incidents increase the likelihood of the true motivations of a critical incident being concealed. There appears to be greater emphasis on perceiving critical incidents as a form of rebellion, indiscipline, or misconduct. As such, whilst the outcomes of a critical incident may offer some understanding as to the underlying motivations, appraisal should extend to a far deeper level. Perhaps less attention has been awarded to the motivations of a critical incident due to the notion that this appears obvious or apparent based on the behaviour, outcomes, and/or reported perception of the individual (Petherick & Turvey, 2008). However, this approach is argued to be reductionist, as the

behaviour, outcomes, and reported reasons may not align with the true functions of engagement in a critical incident. As such, this limited understanding may result in challenges in accurately identifying and addressing specific treatment or intervention needs, thus also potentially accounting for why a minority of individuals repeatedly engage in critical incidents.

Conversely, the often chaotic and spontaneous nature of critical incidents may result in the perception that critical incident engagement is not goal orientated at all. Nonetheless, the notion of ‘motiveless’ engagement in critical incident is not reflected in the literature (Hughes et al., 2018). Moreover, similar behavioural patterns and contributory factors have been observed in different critical incident types, for example hostage-taking (Völlm et al., 2013; Wilson, 2000; Yun & Roth, 2008), barricades (Michaud et al., 2008), and protests (Boin & Rattray, 2004; Michaud et al., 2008). The perception that some critical incidents are ‘motiveless’ may be due to challenges in accurately identifying the triggering or motivating factors of a critical incident (Völlm et al., 2013), which may also be more likely when incidents fall under the definition of a ‘crisis’ incident. This, coupled with the greater likelihood of critical incidents occurring in environments already considered to be somewhat unpredictable, may also account for the lack of attention on motivating factors in the literature.

A key factor associated with motivation in general, is reinforcement, which is well recognised to strengthen future behaviour when particular antecedents are present. There are two broad forms of reinforcement; *negative reinforcement*, which relates to the removal or avoidance of an undesired stimulus, and *positive reinforcement*, which refers to the achievement or gain of a favourable stimulus (Ireland, 2018; Sidman, 2006). As discussed in Chapter two of this thesis, just as critical incidents can be dynamic in nature, so too can the presence of positive and negative reinforcing factors. Debates relating to the dynamic and interchangeable nature of reinforcing factors are well captured in the evidence base (e.g., Baron & Galizio, 2005; Sidman,

2006), yet it is generally acknowledged that it is difficult to exclusively categorise reinforcers of an event as either negative or positive.

Despite presenting challenges, identifying reinforcing factors for critical incidents is of clear relevance, not only for prediction, but also for effective management of a critical incident and subsequent behaviour modification. To date, the role of positive and negative reinforcing factors has received very little attention in this field (Hughes et al., 2018). Research by Verma (2007) explored situational factors relating to community riot incidents and found that incidents were more likely to be motivated by negative, rather than positive reinforcing factors. Nonetheless, this research did not explore internal or individual reinforcing factors, which have received far less attention but arguably have clear relevance to engagement in critical incidents.

Traditionally, engagement in critical incidents was perceived as being motivated by perpetrators aiming to achieve a likely gain (Hatcher et al., 1998). More recent research by Hughes et al., (2018) included a systematic review on publicly available information on hostage and prison riot situations and found similarities in precipitating and background factors for hostage-taking and riot incidents. Only positive reinforcing factors were identified as relevant to critical incident engagement, yet based on the functions identified, it is argued that negative reinforcing factors may have been relevant, for instance, the removal of negative emotions and sense of injustice. Indeed, the authors did note that the methodological approach may have limited the potential of identifying negative reinforcers. This is particularly interesting as the research by Hughes et al., (2018) reviewed publicly available documented incidents, thus it is possible that reporting bias has resulted in an overfocus on what an individual attempted to gain from a situation. This is reflective of the aforementioned perception of critical incident engagement as a form of misconduct or delinquency. As such, it is pertinent that further research is conducted to fully understand the range of potential motivations and reinforcing factors, and which are relevant to the individual (Lewis & Ireland, 2019).

If research can identify the motivations that are likely to result in critical incidents there is potential to mitigate participation (by modifying perceptions, for example) and to assist predictability. Due to the dynamic nature of critical incidents, there is often a range of interacting motivations, and this may also account for the limited availability of research owing to difficulty in exclusively and simplistically categorising the functions of an incident. Many hypotheses relating to the functions of critical incidents have been suggested, although these largely lack empirical or theoretical grounding (Bond, 2020; Ireland et al., 2014). Moreover, existing research tends to list descriptive and/or situational factors of critical incidents (i.e., Neller et al., 2021), as opposed to exploring the underlying functions (Bond, 2020). This is further complicated by the fact that the limited available data largely fails to capture the motives of critical incidents (Bond, 2020).

Existing research has largely related to intrinsic factors, such as beliefs and emotions (e.g., Mailloux & Serin, 2003; Vecchi et al., 2005; Völlm et al., 2013). Motivating factors suggested for hostage situations have also highlighted intrinsic factors, such as increased stress, anger, frustration, sexual frustration, and perceived injustice (Mailloux & Serin, 2003; Völlm et al., 2013). Consequence, or outcome focussed motivations for hostage taking incidents have been identified by Feldmann and Johnson (1995), who also noted that motivations may vary across incidents. Motivations identified by Feldmann & Johnson (1995) included affecting an escape from an interrupted criminal act, eliciting sympathy for radical causes, embarrassing governments in an effort to effect change in domestic or foreign policy, and exacting revenge for an act perceived as wrongful. Not only is this research dated, but it is also largely anecdotal in nature and focuses more explicitly on politically motivated incidents, which is a common theme in the existing literature. As such, these motivations lack generalisability across settings and do not appear to reflect the majority of current day critical incidents that negotiators respond to. Moreover, it is argued that the focus needs to be broadened to allow for a more

holistic understanding of the factors underpinning engagement. There is a clear need to explore motivations for critical incident engagement in a more nuanced manner, and to ensure that pertinent factors are not disregarded. It is hoped that this will support the alignment of understanding and formulating engagement in critical incident management in line with other challenging behaviours, such as aggression and sexual violence.

Ireland et al., (2014) noted that the main functions for engaging in critical incidents in a secure psychiatric setting included the seeking of deliberate isolation from others, gaining control, getting needs met, a need to communicate, and peer influence. It was further noted that several motivating factors can occur during any given incident. Whilst these findings significantly add to understanding of the functions of critical incidents, they rely solely upon the self-report of the individual involved. As previously discussed, it cannot be assumed that the individual always has the required insight into the incident, furthermore, the accuracy of information may be subject to individual bias. As such, there is a need to explore information from a range of perspectives, which is a key aim of the current thesis.

Hughes et al., (2018) supported the findings of existing research regarding motivations of critical incidents, also finding that more than one function per incident could be indicated. It also built upon existing research by identifying that motivations appear to be a combination of *intrinsic* factors, such as internal beliefs and emotions, and *extrinsic* factors, such as increased opportunity, peer influence, and environmental factors. External/extrinsic factors have received very little academic attention (Lewis & Ireland, 2019), although fortunately, factors beyond the individual appear to be receiving greater recognition (i.e., Boin & Rattray, 2004; Hughes et al., 2018). This is promising, as historically there appears to have been a somewhat restricted focus on motivations of critical incidents, where this was limited to internal factors and/or the consequences/outcomes of the event.

Environmental factors/impacts established in the current literature include opportunity/access to victims, insufficient staff to prevent action, and peer observation (Hughes et al., 2018; Ireland et al., 2014). Other environmental factors, such as ease of engaging in a critical incident, challenges in accessing a particular space, and level of surveillance have also been identified (Ireland et al., 2014). Whilst this is an excellent starting point, authors exploring this area acknowledge that consideration of external factors is in its infancy, and at present, research is limited to secure settings, therefore further research is required. Moreover, it is argued that external factors may also be precipitating factors for internal challenges or strains, for example, a need for escape may be owing to an overstimulating environment, or where overcrowding is a core feature. As such, to address critical incident engagement, it is argued that there is a need to delineate motivations that are underpinned by internal strain, and those that may be attributable solely to external factors. General Strain Theory (Agnew, 1992) is therefore discussed below and with specific consideration critical incident engagement.

4.3 General Strain Theory

Strain refers to psychological or emotional tension, stress, or pressure that individuals can experience due to factors such as challenging or adverse circumstances, conflicts or demands within daily life, and/or complex social interactions (Zhang et al., 2014). Strain can also result from a crisis situation, coupled with the lack of coping abilities (Zhang et al., 2014). One highly regarded criminological theory of potential significance is General Strain Theory (Agnew, 1992). General Strain Theory (Agnew, 1992) posits that there are broad types of strain, which fall under three main categories: (1) losing/removal of something that is positively valued, (2) receiving or gaining of something that is negatively valued, and (3) lack of ability or failure to achieve something that is desired (Agnew & Brezina, 2019). It is argued that these categories can account for all types of critical incidents, particularly those captured within this thesis.

General Strain Theory (Agnew, 1992) suggests that there are four key strain characteristics that are most likely to result in delinquency or maladaptive behaviour; (1) strains are seen as unjust, (2) strains are seen as high in magnitude, (3) strains are associated with low social control, and (4) strains create pressure or incentive to engage in maladaptive coping (Agnew, 2001). Unjust strains involve the involuntary or intentional violation of strongly held social norms and/or values, and undeserved or disproportionately negative treatment without clear rationale (Agnew & Brezina, 2019). Strains may also be perceived as unjust when they differ from previous treatment in similar circumstances and/or when treatment is perceived to be different to that of similar others (Agnew & Brezina, 2019). Strains may also be perceived as unjust when the individual does not feel heard or perceives that they do not have a voice. Unjust strains may foster the belief that delinquency is a legitimate, justifiable, or even desirable response, particularly when legitimate means of coping are unavailable or inaccessible (Agnew & Brezina, 2019). Such experiences are arguably characteristic of forensic contexts and may well form the basis of critical incident engagement, particularly where strain is of higher magnitude. Agnew and Brezina (2019) describe high magnitude strains as significant, frequent, repeated, recent and/or prolonged strains. Higher magnitude strains also tend to threaten the core needs, goals, values activities and/or identities of the individual (Agnew & Brezina, 2019).

Strains associated with low social control include weak social bonds, low direct control, and amoral or anti-social beliefs (Agnew & Brezina, 2019), all of which may be salient within a forensic context. The final strain characteristic, as described by Agnew and Brezina (2019) relates to where there is pressure or incentive for delinquent coping. Such strains can include financial pressures, and strains associated with exposure to individuals who model, teach, or reinforce maladaptive beliefs and/or behaviours. Moreover, it can include strain where an individual is pressured or enticed to engage in delinquency (Agnew & Brezina, 2019). It is

further argued that this may relate to some types of critical incidents and/or may form the context in which critical incidents can occur.

Agnew and Brezina (2019) also highlight specific strains that are most likely to result in crime. Those considered relevant to critical incident engagement include supervision or discipline that is considered erratic, excessive, and/or harsh, such as the use of humiliation, insults, threats, screaming, and /or physical punishments. Other relevant examples include a history of abuse or neglect, abusive or coercive peer relations, physical assaults, criminal victimisation, unemployment, challenges with employment, frequent conflict with others, failure to achieve selected goals, lack of excitement, low levels of autonomy, failure to achieve masculinity or status, and discrimination or marginalisation (Agnew & Brezina, 2019). Nevertheless, it currently remains unclear as to *how* these specific strains explicitly relate to maladaptive behaviour, and in particular, critical incident engagement.

It is argued that all three broad strain types and four strain dimensions described by Agnew (2001) can account for strains relevant to critical incident engagement across both community and secure settings. Whilst it is not suggested that critical incident engagement is viewed solely as a form of delinquency or misconduct, General Strain Theory (Agnew, 1992) is considered relevant in contextualising engagement in response to perceived or experienced strain and adversity. As such, engagement in critical incidents may be viewed as being driven by the motivation to challenge, remove, or address strain. Therefore, whilst it is acknowledged that this theory was primarily developed to understand criminality, due to the aforementioned challenges in conceptualising critical incidents, this theory will primarily be discussed in reference to maladaptive behaviour and dysfunctional coping hereafter.

Limited research has applied General Strain Theory (Agnew, 1992) within the wider context of critical incidents, and when considered in this field, General Strain Theory (Agnew, 1992)

has largely been applied to understanding prison-based strain and/or hostage/captive taking (e.g., Bond, 2020; Daniels et al., 2016; Grinnan, 2016). It has been found that prison-based strain adversely impacts prisoners, resulting in an increase in misconduct (Morris et al., 2012). This is plausible given that prison environments are considered stressful for some individuals (Ireland et al., 2014) and that such settings are often characterised by significant rates of violence (Cunningham & Sorensen, 2006). It is, however, noteworthy that strain and the experience of stressors is not exclusive to secure settings, thus the extent to which General Strain Theory (Agnew, 1992) is applicable to other situations that may replicate common features of a prison environment warrants further investigation.

Strain theories indicate that the environment plays a pivotal role in enhancing understanding of motivational factors. More optimistically, through the lens of General Strain Theory (Agnew, 1992), it is suggested that through environmental change, increasing coping and resilience, and/or greater emphasis on protecting against strain or adversity, there is potential to reduce dysfunctional behaviour by focusing more specifically on protective mechanisms. Strain theories also suggest that misconduct may represent a maladaptive coping or problem-solving activity. This is suggested to be a response to an individual's experience of deprivation of positive stimulation, or the experience of negative stimulation owing to the environment (Morris et al., 2012). This appears relevant to critical incidents, particularly as reduced coping has been highlighted as a factor that could drive engagement, particularly in a crisis-incident (e.g., Ireland et al., 2015; Hatcher et al., 1998; McMains, 1993). Nonetheless, it is arguably reductionist to describe engagement in a critical incident simply as an example of 'poor coping', particularly as the individual will likely experience some degree of internally perceived success or achievement (Hughes et al., 2018). Moreover, this surface level understanding offers very little in the way of understanding what strain(s) or stressor(s) the individual is attempting to cope with. Therefore, it is perhaps more helpful to view engagement

as a maladaptive attempt to cope or problem-solve, and to subsequently use this as an opportunity to identify the core driving factors for the individual.

The central premise of General Strain Theory (Agnew, 1992) is that strain(s) or stressors result in the experience of negative emotion, which then serves as a catalyst for engagement in maladaptive behaviour as a means of ending or escaping strain(s) and associated negative affect (Agnew & Brezina, 2019). In some instances, maladaptive behaviour can also occur as a means of seeking retribution or exacting revenge against the perceived source of an individual's strain(s), or related targets (Agnew & Brezina, 2019). It is argued that this can account for all critical incidents captured within this thesis, i.e., hostage-taking, barricades, and protests. Nonetheless, this is dependent upon the type of strain examined, and *individual appraisal* of emotional valence, arousal, and magnitude (Froggio, 2007; Froggio & Agnew, 2007). This adds further weighting to the need to shift to a more person-centred approach to understanding motivations for critical incident engagement, as opposed to arbitrarily categorising commonly occurring functions.

General Strain Theory (Agnew, 1992) also posits that the chronic experience of strain related *states* can foster relatively stable *traits* of negative emotionality and low internal constraint, which remains after the strain is addressed or removed (Agnew & Brezina, 2019). This can also occur where strains are cumulative, and/or where polyvictimisation occurs, and this can overwhelm capacity to cope in a legitimate manner (Agnew & Brezina, 2019). In turn, this can result in inflexible ways of perceiving and behaving towards presenting stimuli and environments. Increased negative emotionality can result in high externalisation of blame to others, intense emotional negative experience, and an increased disposition for maladaptive behaviour (Agnew & Brezina, 2019). Low internal constraint can result in impulsivity, risk-taking behaviour, rejection or defiance of social norms and rules, and a lack of concern for the feelings and rights of others (Agnew & Brezina, 2019). The presence of more stable traits may

account for why a minority of individuals engage in the majority of critical incidents, and why certain individuals are considered to be ‘repeat offenders’.

Drawing on the identified principles of General Strain Theory (Agnew, 1992), it is possible to apply the established ‘conditioning variables’ to critical incident engagement. Agnew and Brezina (2019) state that ‘criminal coping’ is more likely amongst individuals who have poor conventional coping skills and resources, amoral beliefs, and reduced problem-solving abilities. Moreover, other *internal* factors, such as poor social skills, violence supporting attitudes and beliefs, lack of a sense of community belonging, and low self-efficacy can increase the likelihood of ‘criminal coping’ (Agnew & Brezina, 2019). Agnew and Brezina (2019) also identified a range of *external* conditioning variables, such as limited financial resources and support, reduced conventional social and emotional support, a lack of community belonging or stake in social conformity, negative/anti-social peer influence, and exposure to situations where the benefits of delinquency are perceived to outweigh the costs. Whilst currently untested, the highlighted external conditional variables have clear application to critical incident engagement, particularly within a forensic context.

It is noted that engagement in maladaptive behaviour is rarely the result of the experience of a single factor and is more likely to be a result of strain incurred owing to *several* variables (Agnew & Brezina, 2019). This may account for existing findings that motivations are often complex, interrelated, and interdependent. As such, it is argued that critical incident engagement may also be an aggregate construct where vulnerability and protective factors are idiosyncratic in nature. In clinical practice, repeated engagement in critical incidents is often conceptualised as a pattern of entrenched or preferred dysfunctional behaviour. General Strain Theory (Agnew, 1992) arguably offers additional understanding of life-course persistent engagement in maladaptive behaviour, and views this through the lens of repeated exposure to strain across the life trajectory. It is argued that repeated experience may be a result of the

aforementioned stable traits of negative emotionality and low constraint, which may manifest as high negative emotional expression, impulsivity, disregard for others, provocation of negative treatment, and voluntary or involuntary exposure to aversive environments (Agnew & Brezina, 2019).

Other individual factors, such as the experience of mental illness, may also impact coping and experience of strain at an individual level, yet as previously noted, one cannot assume that the experience of mental health factors impede coping *per se*. Those who experience mental illness often face significant and diverse strains, stressors, and social adversities, many of which can have pervasive effects (Alegría et al., 2018). Moreover, those with mental health challenges are more likely to experience a range of developmental adversities (Negriff, 2021). It has been found that those with mental health challenges often have reduced or insufficient social support, with this relationship recognised as being bi-directional (Silver & Teasdale, 2005). Thus, the management of stressful life events, coupled with increasing social support, can substantially reduce engagement in maladaptive behaviour (Silver & Teasdale, 2005).

In summary, General Strain Theory (Agnew, 1992) emphasises several important variables that are neglected by other theories and it accounts for the many factors associated with negative affect, strain, and critical incident engagement, also touching upon the role of individual differences and the social context. Despite this, it does not fully account for the cognitive processes that may underpin critical incident engagement, and how these may *interact* with the social context. This is arguably key to understanding the motivations of critical incidents, particularly as thoughts often precipitate behaviours associated with critical incident engagement (Vecchi et al. 2005). Moreover, it does not offer a comprehensive understanding of the factors that may impact how an individual responds to strain or adversity, nor does it fully account for how the experience of strain may result in legitimate and adaptive coping, which is fundamental to effective social functioning. Finally, whilst it provides some insight into

critical incident engagement owing to the need for autonomy or choice, particularly where this is strained or thwarted, it does not account for critical incident engagement that may be driven by a desire for choice, control, or opportunity, in the absence of strain. As such, the ensuing section of this chapter considers critical incident engagement in the context of self-determination, and with application of Self-determination theory (Deci & Ryan, 1985).

4.4 Self-determination Theory

Self-determination theory (Deci & Ryan, 1985) is a macro-level theory of self-motivation (Autin et al., 2022). It is concerned with supporting our innate or intrinsic tendencies to behave in effective and healthy ways (Deci & Ryan, 2002, Ryan & Deci, 2000, 2002, 2017, 2019, 2020). Self-determination Theory (Deci & Ryan, 1985) suggests that people are driven by a need for psychological growth, development, and fulfilment (Autin et al., 2022; Deci & Ryan, 2008; Deci et al., 2017; Ryan & Deci, 2019, 2020). According to Self-determination Theory (Deci & Ryan, 1985), people need to experience the following to achieve psychological growth: (1) *Competence*; a sense of mastery over tasks and different skills, (2) *Connection or Relatedness*; a sense of belonging and attachment to other people. (3) *Autonomous*; a sense of control over their own behaviours and goals. Deci and Ryan (2002, 2020) suggest that when people experience these three things, they become self-determined and are intrinsically motivated to pursue the things that interest them or are of intrinsic value. Moreover, the satisfaction of these three core needs predicts a person's level of wellbeing, and the extent to which an individual's behaviours are driven by autonomous forms of motivation (Vansteenkiste & Ryan, 2013). It is possible that critical incident engagement can provide the means of achieving or fulfilling needs, for example, via the perceived acquisition of competence, connection/relatedness and/or autonomy, albeit in an illegitimate way.

Ireland et al., (2014) discussed critical incident engagement in relation to Self-determination theory (Deci & Ryan, 1985) and stated that the likelihood of critical incidents is increased when sense of control and autonomy is lost or reduced. As previously noted, by their very nature, correctional facilities, and indeed the community, where a sense of order and control must be maintained to ensure public safety, can present constraints and limitations for individuals who are experiencing crisis or conflict (Ireland & Vecchi, 2009). Secure settings may present several environmental limitations that inhibit the individual from exercising autonomy, or from implementing their preferred coping or problem-solving style (Ireland, Boustead & Ireland, 2005; Brown & Ireland, 2006).

Self-determination theory (Deci & Ryan, 1985) can also build on understanding offered by General Strain Theory (Agnew, 1992), for example, by highlighting why some individuals may be more or less effective in responding to strain and adversity. For instance, individuals who have a high degree of autonomy and feel a sense of control over their lives are more likely to be proactive and effective in their response to strain and adversity, perhaps due to a stronger sense of self-determination and increased perception of their ability to influence outcomes. Lack of freedom to act on thoughts and emotions can be viewed as curtailment or violation of individual autonomy (Gelfand et al., 2001). Where autonomy is inhibited, individuals may utilise alternative maladaptive means of achieving their needs, and this could result in the initiation of a critical incident (Ireland & Vecchi, 2009).

It is, however, argued that self-determination theory (Deci & Ryan, 1985) can account for critical incident engagement extending beyond the context of strain. Ryan & Deci (2000) posit that people are most likely to experience positive emotion and perform at their best when they perceive an increased level of control over their daily life. As such, it is possible that critical incident engagement may reflect a drive for control, regardless of whether or not strain is experienced. This may offer a potential explanation for the generally low frequency of critical

incident engagement in secure settings, despite the continuous presence of barriers to control and autonomy. It is therefore suggested that other factors accounted for by Self-determination theory (Deci & Ryan, 1985) may be relevant to critical incident engagement.

Whilst it may be captured under motivations identified in existing research, such as a need to communicate or meet needs, the role of competence, as captured by Self-determination theory (Deci & Ryan, 1985), has not yet been specifically considered in respect of critical incident engagement. It is argued that engagement in critical incidents may represent an act of mastery for some individuals, albeit considered dysfunctional by conventional social standards. Mastery and competence may relate to the successful perpetration of an incident, which often requires the deployment of considerable resources. Furthermore, it may also relate to the concept of engendering increased attention to a particular cause, and in some cases, actioning meaningful change. As such, whilst this is potentially of more relevance to protest situations, it is argued that this may also relate to different types of critical incidents. Sense of mastery and competence may also be increased where situations present an elevated risk of harm or detection, the presence of coercion, and an increased level of challenge and complexity. Indeed, coercive incidents have been found to be more likely in prisons of higher security and with larger populations (Bond, 2020). This may reflect situations where the rewards are perceived as higher.

Cognitive Evaluation Theory (Deci, 1975), a sub-theory of Self-determination theory (Deci & Ryan, 1985) focuses on the distinction between intrinsic and extrinsic motivation, and the impacts of extrinsic rewards on intrinsic motivation (Deci, 1975; Vansteenkiste et al., 2006). Cognitive Evaluation Theory (Deci, 1975) highlights the important roles played by competence and autonomy in fostering intrinsic motivation, which is fundamental for social adjustment and engagement in learning. When individuals experience intrinsic motivation, they tend to engage in behaviours that are individually rewarding, self-satisfying and fulfilling. When individuals

experience extrinsic motivation, they are more likely to engage in behaviours that achieve objective outcomes and instrumental aims. It is possible that the type of motivation experienced impacts the type of critical incident an individual engages in, and the potential nature of expressed aims and demands.

Cognitive Evaluation Theory (Deci, 1975) specifically addresses the impact of social contexts on intrinsic motivation, and how factors such as rewards and interpersonal controls impact intrinsic motivation and interest. Cognitive Evaluation Theory (Deci, 1975) posits that intrinsically motivated behaviour is affected by an innate drive for competence and autonomy within an environment (Vansteenkiste et al., 2006). When rewards are offered, this can simultaneously satisfy and undermine the need for competence (Reeve, 2018). Cognitive Evaluation Theory (Deci, 1975) firstly asserts that the reward within a given context or environment can undermine intrinsic motivation, as this may be cognitively evaluated as controlling participation in a particular activity. In such situations, critical incident engagement may represent a method of asserting or demonstrating capacity for free will and autonomy. Secondly, informational aspects of the reward may negatively impact or undermine the individual's cognitive appraisal of their own competence. Cognitive appraisal of rewards can therefore lead to a perception of being controlled or incompetent, thus decreasing intrinsic motivation to engage in more adaptive behaviour.

Factors such as increased surveillance (Plant & Ryan, 1985) and situations where behaviour is controlled have been found to reduce intrinsic motivation to engage in favourable behaviours (Deci et al., 1999). Moreover, situations that inhibit autonomy and choice often reduce intrinsic motivation (Ryan & Deci, 2000). This is clearly relevant to environments such as prisons and secure hospitals where a high level of supervision is typical, and choice is somewhat restricted. It is important to note that increased sense of competence may not only be achieved from conventional reward systems but may also relate to what is valued and is perceived as

rewarding for the individual. Critical incident engagement can therefore, in some cases, serve the function of demonstrating competence to others, as based on subjective and potentially anti-social values and beliefs. Increased perceived competence may also result in positive emotional states and increased self-esteem, which may subsequently create a positive feedback loop, thus potentially increasing the likelihood of repetition (Reeve, 2018). Related to this, increased perceived competence can also support the avoidance of negative emotion, which as previously discussed, can provide the context for strain. Nonetheless, the association between competence and critical incident engagement remains hypothetical at present, and this requires further exploration, not least due to the importance of addressing potentially reinforcing factors.

It is further noteworthy that a sense of competence/mastery may not necessarily relate to pro-social goals and may also relate to the achievement of anti-social, coercive, or even criminal aims. These may include motivations consistent with those identified by Hughes et al., (2018), such as inflicting pain for enjoyment, demonstrating physical dominance over another, overpowering someone in authority, vengeance, demonstrating a drive for serious action, facilitating escape, and removing power from those in authority. It is further argued that a desire for competence may be more associated with *conflict* than *crisis* situations, and where there is more likely to be a pre-determined goal. Nevertheless, due to the aforementioned conceptual challenges, this is difficult to ascertain or exclusively categorise, moreover this has not been empirically explored to date.

The concept of relatedness, as captured by Self-determination theory (Deci & Ryan, 1985), may also apply to critical incident engagement (Ireland et al., 2014). The role of peer influence has been captured within the literature, not only regarding peer pressure or audience presence, but also in relation to critical incident engagement that affords an enhanced sense of connection, affinity, and relatedness with peers (Ireland et al., 2014). This may account for individually perpetrated critical incidents that are endorsed or encouraged by others, and

incidents including a degree of collusion, co-offending, or group action, all of which may serve the function of relatedness. Moreover, co-offending is more likely when individuals are similar in age (Reiss & Farrington, 1991), gender (Warr, 1996), and ethnicity (Reiss, 1988). As such, a drive for relatedness may also partially explain trends relating to those engaging in critical incidents, and where there is a higher proportion of younger men reflected in reported prevalence statistics. Thus, it is suggested that individuals can not only be motivated to engage in critical incidents *due* to a sense of relatedness with others but may also be motivated to engage to *achieve* a greater sense of relatedness with others. As such, it is argued that the relationship between critical incident engagement and relatedness could well be bi-directional, yet this requires further exploration.

Self-determination theory (Deci & Ryan, 1985) may also offer increased understanding regarding protective factors for critical incidents. Social environments that are supportive, rather than controlling, increase the likelihood of behaviour being intrinsically motivated (e.g., Vansteenkiste et al., 2004). Individuals that are supported within an encouraging and trusting environment may be extrinsically and intrinsically motivated to engage in more pro-social behaviours that are internally and externally rewarding. A supportive and trusting environment may also encourage individuals to discuss or disclose their intentions to perpetrate critical incidents, which may also serve as a protective factor. Moreover, a trusting environment may encourage individuals to seek support during aversive life events, and the development of meaningful relationships with staff could assist in the identification of instability or recent behavioural change. If the environment is controlling and unsupportive, then individuals may choose to behave in an extrinsically motivated manner to achieve objective goals and outcomes, for example, engaging in critical incidents.

In summary, Self-determination theory (Deci & Ryan, 1985) appears relevant to critical incident engagement and offers explanations beyond strain that may motivate perpetration,

such as a drive for autonomy, competence, and relatedness. Moreover, Self-determination theory (Deci & Ryan, 1985) can be applied in further understanding environmental, protective, and cognitive factors relating to critical incidents, and how these can differ across place and person. Nonetheless, whilst Self-determination theory (Deci & Ryan, 1985) has enabled *some* consideration of how others may influence engagement in critical incidents, it does not assist understanding regarding the specific social and/or cognitive processes via which this can occur. This is considered to be of key relevance to critical incident engagement, particularly as many of the vulnerability and strength factors outlined in Chapter three may be socially learnt and/or transmitted, thus warranting consideration of social schematic theories, and which is captured below.

4.5 Social Schematic Theories

Social Learning Theory (Bandura, 1977), also referred to as Social Cognitive Theory, and later ‘Social Structure Social Learning Theory’ (Akers & Jensen, 2006) is an integrated social theory which incorporates aspects of other criminological theories (Opp, 2020). SLT posits that people learn from others in their environment via observation, imitation, and modelling. Learning can occur through direct contact, media exposure, and symbolic communication (Bandura, 1986). SLT has also been well applied to crime and deviancy. Indeed, it has been argued that SLT accounts for criminological and sociological aspects at both a micro and macro level, and that it offers a superior account of deviancy in comparison to other theories (Akers 2017; Akers & Jensen, 2006). It is possible that SLT can be applied when understanding engagement in critical incidents that appears socially transmitted, such as via observation and/or modelling the behaviour of others.

The four core principles of SLT are (1) *attention* to a particular behaviour; (2) *retention* of information pertaining to an imitated behaviour and encoding of this within existing memory

systems; (3) *reproduction* or rehearsal of acquired behaviour, skills and/or knowledge, and (4) *motivation* to enact the learnt behaviour (Bandura, 1977). From an early age, individuals observe the people around them behaving in various ways. In society, individuals are surrounded by many influential models, such as parents, caregivers, and peers. SLT posits that role models may change over the life trajectory, for example, this may include family members in childhood, peers in adolescence, and intimate partners in adulthood (Akers, 2017). Such models provide examples of behaviour to observe and imitate, and these may be pro-social or anti-social in nature (Bandura, 1977). Observed behaviour is subsequently encoded and this forms a template for future behaviour.

SLT also consists of four core theoretical elements, each consisting of several factors: (1) differential association; which relates to association with criminal or pro-criminal others; (2) definitions of crime from the perspective of a potential criminal; (3) differential reinforcement; which refers to the balance of the rewards and punishments of crime, and (4) imitation (Opp, 2020). Differential Association Theory (Sutherland, 1947) states that engagement in crime, or in this context dysfunctional behaviour, is the product of learnt social processes which interact with deviant patterns of behaviour (Bruinsma, 1992). Critical incident engagement has not been formally explored with consideration to Differential Association Theory (Sutherland, 1947, 2010), nonetheless, the *potential* relevance of this theory to critical incidents has been suggested, albeit somewhat fleetingly (e.g., Hughes et al., 2018).

Differential Association Theory (Sutherland, 1947, 2010) suggests that delinquency and criminality is learnt via interaction and communication with others, and where the principal aspect of learning occurs within intimate interpersonal groups (Opp, 2020). Differential Association Theory (Sutherland, 1947) was redefined by Burgess and Akers (1966) as Differential Association-Reinforcement model, which also recognised the impact of peer attitudes and reactions to delinquency. This also has parallels with General Strain Theory

(Agnew, 1992), which states that deviant peer groups provide role models and reinforcement for deviant behaviour and values (Agnew, 1992). Relationships are described as the context for criminality and deviance where (1) others commit crime, (2) others express pro-criminal definitions or attitudes relating to crime, (3) others are criminal role models and (4) a substantial amount of time is spent together (Opp, 2020). This process not only creates a learning opportunity for techniques of committing crime, but also for the specific motives, drives, rationalisations, and attitudes that motivate criminal behaviour (Bruinsma, 1992). As such, differential associations relate to definitions which are both favourable and unfavourable to violation or rules and/or the law, yet not all interactions through which the definitions are received are equal, and some carry greater weighting (Bruinsma, 1992). According to Differential Association Theory (Sutherland, 1947), differential associations may vary in frequency, duration, priority, and intensity, depending on the individual and the situation (Bruinsma, 1992).

Opp (1974) reformulated Differential Association Theory (Sutherland, 1947) and highlighted five key variables of differential association, noting that this is characterised by (1) the frequency of communication about techniques, (2) the effectiveness of the techniques, (3) the intensity of regulating deviance, (4) the opportunities for committing crimes, and (5) the intensity of the needs. Opp (1974) suggested that certain associations may have a greater impact on crime and delinquency, for example, associations that are frequent and long lasting may have a greater impact than those that are brief. Opp (1974) also stated that two constructs are critical; (1) the frequency of contacts with deviant behaviour patterns and (2) the degree of identification with the source of deviant contacts. It is noteworthy that peers were found to have a greater influence on deviancy than family members, and the more that an individual identifies with a deviant peer, the greater the impact of deviant associations (Opp, 1974). This supports previous arguments regarding relatedness, and arguably accounts for critical incidents

that occur with others, where critical incidents are initiated or endorsed by others, and where a degree of collusion is evident.

Whilst collusion or co-offending has not been extensively explored in relation to all types of critical incidents, Bond (2020) found that 11% of prison-based hostage-taking incidents were reported to involve collusion. It is argued that people may co-offend due to 'social selection', where those with similar traits, beliefs, and characteristics are in similar social contexts (Roxell, 2011). In this context maladaptive behaviour often occurs spontaneously and where the opportunity arises (Bond, 2020). People may also co-offend as a form of 'social exchange', for example where numerous individuals can mutually benefit from the same action (Weerman, 2014). This may also be associated with the relatedness aspect of Self-determination theory (Deci & Ryan, 1985), and also General Strain Theory (Agnew, 1992), where like-minded individuals may experience similar socioenvironmental strains (Bond, 2020).

There are several processes that increase or decrease the likelihood of an individual re-enacting behaviour that society, or a particular subset of society, deems appropriate. Firstly, an individual is more likely to attend to and imitate individuals who are perceived as similar to oneself, thus lending further support for the notion that behaviour is motivated by relatedness, as captured by Self-determination theory (Deci & Ryan, 1985). Secondly, initiation and enactment of the target behaviour is largely dependent upon associated reinforcement or punishment. Generally, if a behaviour and/or the consequences are internally or externally rewarding, the behaviour is likely to be strengthened and repeated. This may relate to critical incident engagement where responses or consequences are perceived in some way as favourable by the individual, even if this does not represent conventional social norms or expectations. An example of this may be the use of seclusion following a critical incident engagement. Whilst it is acknowledged that the use of seclusion should only ever be used as a form of least restrictive practice, and not as a form of punishment, this may be viewed by many

as an undesired consequence. However, for some individuals, the opportunity for isolation, predictability, and increased safety may be perceived as rewarding, particularly in over-stimulating, over-populated, and higher risk environments.

Thirdly, individuals will also observe and appraise consequences experienced for others, and this will inform decisions relating to their own behavioural initiation and enactment. Individuals can therefore learn from the consequences of another person's actions, a concept referred to as vicarious reinforcement. Bandura (1977) postulated that vicarious learning can be dependent on positive or negative consequences of the modelled behaviour, as well as outcome expectancy, which relates to identification of potential and/or anticipated consequences of the behaviour. As such, SLT adds to the understanding provided by Self-determination theory (Deci & Ryan, 1985) by extending this beyond rewards and reinforcing factors and also capturing the potential impact of *expected* rewards or outcomes. This is relevant to the protective factors relating to critical incidents and may account for generally low engagement rates, perhaps due to inhibitory processes.

Another factor that may account for typically low engagement in critical incidents, and which offers insight into protective factors, is that adaptive behaviour may also be learnt via social processes. This is arguably more likely in social contexts where there is emphasis on behavioural modification, and in environments where there is an increased demonstration of pro-social behaviours. In the context of critical incident engagement, this may relate to the witnessing of others coping well in difficult situations, the implementation of adaptive coping strategies, observing healthy techniques for distress tolerance, and the vocalisation of non-supportive beliefs regarding the effectiveness or appropriateness of critical incident engagement. This is likely to be further strengthened and reinforced in pro-social environments and where levels of support and self-efficacy are increased.

Related to the notion of competence, as captured by Self-determination theory (Deci & Ryan, 1985), self-efficacy is an important feature of social learning (Bandura, 1997). Self-efficacy can relate to both persistence (Brezina & Topalli, 2012) *and* desistance (Johnston et al., 2019; Walters, 2018) of delinquency and criminality, thus it can potentially serve as a vulnerability and/or protective factor for critical incident engagement. For example, if an individual perceives that they are capable and competent of carrying out a critical incident and feel that they have the capacity to achieve their desired outcome, then the behaviour is more likely to be demonstrated. However, individuals can also possess self-efficacy to demonstrate more pro-social means of achieving their identified needs and goals, thus decreasing the likelihood of critical incident engagement. Therefore, the importance of contextualising the nature and impact of self-efficacy for the individual is emphasised. Related to this, individuals can also adopt a pro-social or anti-social identity, with this often transforming over time across the developmental trajectory and rehabilitation processes (e.g., Copp et al., 2020; Na et al., 2015; McCuish et al., 2021), and where self-efficacy has been identified as a key factor in this process (e.g., Brezina & Topalli, 2012; Johnston et al., 2019; Walters, 2018). Nevertheless, and of key relevance to critical incident engagement, prosocial and anti-social identities can simultaneously exist, particularly as individuals navigate the process of desistance (Paternoster & Bushway, 2009), and which forms the key aim of many forensic/correctional settings.

Social Identity Theory (SIT; Tajfel, 1978; Tajfel & Turner, 1979) is another integrative theory, yet this theory combines both cognitive processes and behavioural motivation. SIT posits that the vast proportion of a person's concept of self originates from the numerous groups to which the individual belongs. An individual does not just have a personal selfhood, but multiple selves and identities associated with their affiliated groups. SIT suggests that a person might act differently in varying social contexts according to the groups they belong to. Tajfel and Turner (1979) proposed that there are three cognitive processes involved in evaluating others as 'us'

or 'them' (i.e., 'in-group' and 'out-group'). These take place in a sequential order. The first is categorisation, where individuals, including ourselves, are socially categorised in order to assist understanding of the social context, roles, norms, expectations, and appropriate behaviour. The second process is social identification, whereby the identity of the group an individual is affiliated with is adopted. For example, if an individual categorises themselves as a 'hostage-taker', 'protester' or 'barricader', there is a higher likelihood of them adopting this identity, conforming to group norms, and/or enacting behaviour that aligns with this identity. Group identification is of emotional significance to the individual, and self-efficacy often becomes enmeshed with group membership. This may explain critical incident engagement that appears motivated by identification with a specific cause or affiliated group.

The final stage is social comparison, which occurs when social identification is complete, and comparisons are made between the group to which the individual is affiliated and other groups (Tajfel & Turner, 1979). The maintenance of self-esteem relies on the affiliated group being perceived favourably over other groups. Social comparison is critical to understanding prejudice and discrimination, as different groups may be seen as rivals and perceive a need to compete with or dominate others to maintain self-esteem (Tajfel & Turner, 1979). As such, group competition and hostility not only originate from a need for resources, but also because of competing identities (Tajfel & Turner, 1979). Deviance may be also more likely where an individual or group does not perceive a bond or social connection with other individuals in the environment, as explained by Social Bond Theory (Hirschi, 1969). Moreover, it may result from a wider lack of social connection and/or the individual having fewer conventional ties to society (Bartol & Bartol, 2011). Within secure/forensic settings there are often numerous different groups and identities, not only in service-user populations, but also between staff and service-users, and which is often described as an 'us' and 'them' culture. This may offer a potential theoretical explanation for critical incidents where a staff member or opposing group

member is taken captive, and for critical incidents that were more traditionally conceptualised as ‘politically inspired’. It may also explain critical incidents that are perpetrated by a particular sub-group within a setting or society, and where allegiance to a specific cause or identity can be observed.

Despite this, pro-social beliefs, values, and relationships can serve as protective factors, even when societal bonds are weakened or non-existent (Hirschi, 2017). Moreover, enhancement of self-esteem and reinforcement of pro-social behaviours may increase the likelihood of an individual developing a more pro-social identity. Over time, individuals may challenge aspects of their criminal identity and eventually adopt the identity of a pro-social member of society (Paternoster & Bushway, 2009). Nonetheless, this may be a gradual and extensive process, not least when individuals have developed a ‘criminal identity’ over several years, as is often the case with individuals who engage in offending across the life-course. This may account for changes/ reduction in critical incident engagement across the life trajectory. It may also explain, in part, why prevalence statistics indicate that critical incidents are more likely to be perpetrated by younger males, who are likely earlier on in the process of maturation.

A key criticism of Social Bond Theory (Hirschi, 1969) is that it is assumed that there is an innate drive for deviancy, and individual factors for maladaptive behaviour are disregarded. Moreover, this does not capture previously discussed motivating factors, such as to cope with strain or adversity, as accounted for General Strain Theory (Agnew, 1992). However, delinquency in this context may be viewed through the lens of Self-determination theory (Deci & Ryan, 1985), particularly where engagement in critical incidents provides the context or opportunity for an individual to form a social bond with others, for example where they demonstrate their allegiance with a particular sub-group or socially valued cause. Nevertheless, Hirschi (1969) posits that people are more likely to conform and engage in adaptive behaviours where social control is higher, and social networks are more entrenched. This contradicts

previously presented arguments relating to General Strain Theory (Agnew, 1992) and Self-determination theory (Deci & Ryan, 1985), thus it is argued that Social Bond Theory may offer understanding of critical incident engagement where the motivating factor appears to relate to others independent of experienced strain or adversity. As such, further research is required to explore the value of Social Bond Theory in regard to understanding critical incident engagement.

In summary, the integrative social schematic theories discussed in this subsection have offered further understanding of the potential social and cognitive mechanisms of critical incident engagement. To date, there has been little, if any, application of social learning theories to critical incident engagement, despite this being an eminent theory in the understanding of crime and delinquency. It is suggested that the discussed social schematic theories may bridge existing gaps, offering a more nuanced and holistic understanding of the mechanisms and protective factors for critical incident engagement. These theories posit that media exposure can also play a crucial role in shaping critical incident engagement, such as via the learning of how others have responded in similar situations. As such, it is further argued that more can be learnt about the potential motivations of critical incidents by researching this data source. The notion of critical incident engagement as a form of social connection or relatedness with others is largely under researched. Nonetheless, it is notable that social connection represents only one of the basic human needs, and as such, it is argued that greater consideration of additional basic needs is also required. To address this, the next section of this thesis focuses on the Good Lives Model (Ward, 2002; Ward & Brown, 2004; Ward & Stewart, 2003).

4.6 Good Lives Model

The Good Lives Model (Ward, 2002; Ward & Brown, 2004; Ward & Stewart, 2003) is best conceptualised as a theoretical framework. It was initially developed as a model of sexual

offending rehabilitation, based on positive psychology. Nevertheless, this strengths-based and person-centred framework has since been well-applied within several forensic and non-forensic contexts and is the preferred model of offender rehabilitation for many (Fortune, 2018; Gannon et al., 2011). Despite its popularity and wide applicability, the Good Lives Model (Ward, 2002; Ward & Brown, 2004; Ward & Stewart, 2003) has been subject to considerable academic scrutiny, not least due to concerns that the Good Lives Model (Ward, 2002; Ward & Brown, 2004; Ward & Stewart, 2003) is an ideological and intuition-based, rather than empirically supported model (Andrews & Bonta, 2003; Wormith et al., 2012). Much of the literature supporting the Good Lives Model (Ward, 2002; Ward & Brown, 2004; Ward & Stewart, 2003) is theoretical in nature, and few empirically based studies have explored treatment outcomes. Despite this, a recent systematic review found that the Good Lives Model (Ward, 2002; Ward & Brown, 2004; Ward & Stewart, 2003) is *emerging* as an empirically supported model, whilst also acknowledging that further research is required (Mallion et al., 2020).

The Good Lives Model (Ward, 2002; Ward & Brown, 2004; Ward & Stewart, 2003) provides a framework for understanding the criminogenic and dynamic factors that contribute to maladaptive behaviour, but also contextualises these factors based on the unique values, life position, and goals of the individual. This is pivotal in informing individualised management strategies and intervention. Moreover, the Good Lives Model (Ward, 2002; Ward & Brown, 2004; Ward & Stewart, 2003) provides a motivational force for change, recovery, and behavioural modification amongst those with histories of trauma and criminality. The ‘good lives’ concept is based on the notion that individuals have a fundamental desire to lead purposeful and meaningful lives, and that this desire can be achieved through the pursuit of certain goals, values, and experiences (Ward & Stewart, 2003). The Good Lives Model (Ward 2002; Ward & Brown, 2004; Ward & Stewart, 2003) posits that the attainment of life goals, well-being, and psychological satisfaction will reduce preference for offending/delinquency

and increase motivation for change. The motivations underpinning the pursuit of a ‘good life’ can vary based on individual, social, cultural, and economic factors, yet in general, these largely pertain to; (1) a desire for personal growth and development, (2) a sense of purpose and meaning, and (3) the achievement of material gains and psychological well-being.

Further building on the previously discussed Self-determination theory (Deci & Ryan, 1985), which acknowledges the three basic psychological needs of autonomy, competence, and relatedness, the Good Lives Model (Ward, 2002; Ward & Brown, 2004; Ward & Stewart, 2003) outlines four *additional* universal and fundamental core human needs (Ward & Stewart, 2003; Mallion et al., 2020). These include: (1) *Self-Acceptance*, the need for individuals to have a positive self-image, and to feel comfortable with who they are; (2) *Positive Emotions*, the need for individuals to experience positive emotions, such as happiness, contentment, excitement, and joy, in their daily lives; (3) *Purpose*, the need for a sense of meaning and purpose in life, and a perception of making a positive impact in the world; and (4) *Spiritual Fulfilment*, the need for individuals to have a sense of connection to something greater than themselves, and to experience a sense of transcendence.

Based on these core human needs, eleven primary goods have been identified (Mallion et al., 2020). These include: (1) *Life* (e.g. healthy living); (2) *Knowledge* (e.g. being informed about important matters); (3) *Excellence in Play* (e.g. hobbies and leisure); (4) *Excellence in Work* (e.g. mastery and skill); (5) *Agency* (e.g. independence, autonomy and power); (6) *Inner Peace* (e.g. freedom from stress and emotional strain); (7) *Relatedness* (e.g. intimate, peer, and familial relationships); (8) *Community* (e.g. sense of connection to a wider social group); (9) *Spirituality* (e.g. perceived meaning and purpose in life); (10) *Pleasure* (e.g. positive emotional experience) and; (11) *Creativity* (e.g. ability to express oneself through alternative means).

Criminogenic needs are considered obstacles to the achievement of primary goods (Mallion et al., 2020; Ward et al., 2012). It is argued that the obstacles outlined in the existing literature have clear similarities with the antecedents of critical incidents. Mallion, Wood & Mallion, (2020) note that obstacles include: (1) *lack of appropriate means*, such as the use of inappropriate and/or harmful secondary goods; (2) *lack of scope*, overfocusing on certain primary goods and neglecting others; (3) *lack of coherence*, conflict or inconsistency in the prioritisation or management of primary goods; and (4) *lack of capacity*, such as deficits or challenges of internal skills or external conditions necessary for attaining primary goods.

Through the lens of the Good Lives Model (Ward, 2002; Ward & Brown, 2004; Ward & Stewart, 2003), critical incident engagement represents a maladaptive, but often effective way to meet primary needs, with internal and external factors presenting as *both* barriers and protective factors (Ireland et al., 2014, 2015). Ireland et al., (2014) discussed critical incident engagement with reference to Maslow's seminal hierarchy of human needs (Maslow, 1943), recognising that engagement may represent an attempt at meeting needs. They went on to consider challenges associated with meeting more *advanced* needs, such as belonging and self-esteem in secure psychiatric settings, noting that there is greater emphasis on the meeting of *basic* needs. Ireland et al., (2014) suggested that a desire to meet human needs can provide the context for critical incident engagement, thus increasing the risk of occurrence. Further building on this, Ireland et al., (2015) recognised the potential value of the Good Lives Model (Ward, 2002; Ward & Brown, 2004; Ward & Stewart, 2003) in enhancing understanding of critical incidents, further noting its application to hostage-taking, barricade, and protest situations.

If an individual's needs are fully understood, then more adaptive means for achieving these primary needs can be identified and fostered. Nonetheless, it is recognised that some individuals have differential opportunities in respect of their ability to legitimately meet their

needs. Differential Opportunity Theory (Cloward & Ohlin, 1960) is a sociological theory that posits that criminal behaviour results from a lack of access to legitimate opportunities, such as education, employment, and other forms of social mobility. Differential Opportunity Theory (Cloward & Ohlin, 1960) states that the availability of opportunities to legitimately meet needs varies across different social groups, and that individuals who lack access to these opportunities are more likely to engage in deviance or criminality. In the context of critical incident engagement, Differential Opportunity Theory (Cloward & Ohlin, 1960) may offer an explanation as to why some individuals may be more or less effective in responding to strain and adversity. Those with better access to the necessary skills and resources are arguably more likely to possess higher levels of resilience and coping mechanisms that support effective management of strain and adversity. Conversely, those who lack such opportunities may also lack the material and psychological resources to manage a strain or stressor, and they may have a less optimistic perception of their ability to effectively problem-solve, thus increasing the likelihood of critical incident engagement as a response. Through the lens of meeting needs, Differential Opportunity Theory (Cloward & Ohlin, 1960) further highlights the role of social, cultural, and economic inequality, and it is further argued that consideration of opportunity is key to future prediction, formulation, and management of critical incident engagement.

Offending has been noted to represent either a *direct* or *indirect* attempt to fulfil or meet primary goods/needs (Ward & Maruna, 2007), which mirrors the previously presented arguments relating to critical incident engagement. Nonetheless, it is important to recognise that not all individuals who are unable to adaptively fulfil their needs engage in critical incidents. It is therefore suggested that the presence of primary goods may serve a protective mechanism for critical incident engagement. To fully understand the functions of individuals engaging in critical incidents, it is imperative to also consider the factors that inhibit individuals from engaging in such events (Alison et al., 2015a). It is again argued that the only way to

identify the presence, absence, and/or salience of primary goods for the individual, is to do so from a person-centred perspective. It is further argued that this should include consideration of relevant and specific social, cultural, individual, and economic factors. It is hoped the developed model of understanding will provide a framework that will support this undertaking. The Good Lives Model (Ward, 2002; Ward & Brown, 2004; Ward & Stewart, 2003) adds to existing understanding of additional universal and fundamental needs, also highlighting the direct and indirect impacts on critical incident engagement. Moreover, it raises attention to inequalities, further raising support for an individualised approach to understanding the motivations of critical incidents. This thesis aims to further explore the potential application of the Good Lives Model (Ward, 2002; Ward & Brown, 2004; Ward & Stewart, 2003) to critical incident engagement and as such, it aims to build on existing literature.

4.7 Concluding comments.

Chapter four has outlined how critical incidents appear to be motivated by a range of factors, including experience of strain, socio-schematic factors, and the meeting of fundamental human needs. Despite addressing many of the current gaps in understanding, the picture remains somewhat complex and multifaceted, and many, if not all, of the identified factors have been argued to be dynamic, interrelated, and interdependent. As such, there is a clear need for further empirical testing and exploration. When combined, the presented theories arguably account for why some individuals engage in critical incidents and others do not, yet this clearly warrants further research. Whilst gradually increasing, the limited availability of theoretically and empirically driven research in this field has resulted in an over reliance on anecdotal insight, and management approaches have been largely informed by police experience (Bond, 2021). Research regarding procedural response to critical incident engagement is emerging at a seemingly increased rate than research pertaining to motivating factors, which remains limited overall. This is somewhat surprising, particularly as the most effective response may be largely

dependent on the mechanisms underpinning engagement. As identified by Michaud et al., (2008), the evidence base has been 'held hostage' to a paucity of empirically driven literature, thus resulting in an inevitable overdependence on intuition and subjective experience.

Arguably, and as captured in chapter two, this is further exacerbated by the lack of consistency in respect of how critical incidents are defined. To date, engagement in critical incidents has been largely conceptualised in overly simplistic or dichotomous terms, and the limited available research has focused on attempts to delineate typologies. Such typologies are largely descriptive, non-person-centred, and do not account for dynamic interactions at an individual, situational, and contextual level. Moreover, and perhaps due to the often dynamic and fluctuating nature of critical incidents, there is a significant degree of overlap. It is argued that for decades, despite very best efforts, academics have been attempting to achieve the impossible by conceptualising critical incident engagement based solely on observable presenting factors. It is further argued that the key to fully understanding the nature and extent of critical incident engagement lies in functional assessment. This approach will enable the identification of salient motivating factors, which can be subsequently appraised in terms of relevance for the individual, situation, and context.

Establishing motivating factors is arguably central to the development of a model that can be utilised pre, peri, and post critical incident, and which can be applied for critical incidents that typically occur within forensic populations. The evidence base in regard to the motivations of critical incidents is limited overall, and a model of understanding has not been developed until now. Existing literature is hampered by methodological limitations, such as sampling bias and small sample sizes, which limits generalisability. Whilst there has been at least some attention awarded to risk and vulnerability factors, this is largely descriptive. Moreover, there has been no attention to protective or promotive factors for critical incident engagement in the field, such as resilience. This may have posed challenges in regard to negotiator effectiveness and

decision making. It is plausible that an inconclusive understanding of why critical incidents may occur would pose challenges in regard to the implementation of a tailored response, particularly where time pressures impede ability to obtain specific information relating to predisposing and precipitating factors.

When attempting to understand triggers, it appears that there has been a preoccupation with associated psychopathology, as opposed to the impacts of mental health and personality traits on functioning and coping. Interactions between the individual, their social environment, and situational factors can influence daily functioning and self-regulation abilities. To date, however, there has been no examination of ability to effectively problem solve or coping or resilience factors in respect of critical incident engagement. Moreover, focus has been on diagnostic personality constructs, as opposed to personality traits and impacts on functioning. Not only does this provide an inconclusive picture, but it also presents challenges such as potential diagnostic overshadowing and stigmatisation, which is further compounded by media sensationalism. Furthermore, there is little consideration of critical incident engagement as a maladaptive means of functioning or managing strain.

There has been little *integration* of psychological theory when attempting to understand why some individuals engage in critical incidents, although it is acknowledged that there has been some application of theory in more recent research (e.g., Hughes et al., 2018; Ireland, et al., 2015). Nevertheless, critical incident engagement has scarcely been viewed through the lens of coping with strain, and theories such as General Strain Theory (Agnew, 1992) have not been applied to enhance understanding of the specific mechanisms by which this may occur. Moreover, there has been very little application of Self-Determination Theory (Deci & Ryan, 1985) or Cognitive Evaluation Theory (Deci, 1975), despite factors such as a drive for autonomy, relatedness, and competence being of clear relevance within the context of strain,

particularly within forensic populations. It is argued that such theories are of particular relevance to fully understanding critical incident engagement.

Related to the notion of meeting core needs, there has been no application of psychological theory, such as the Good Lives Model (Ward, 2002; Ward & Brown, 2004; Ward & Stewart, 2003) and Differential Opportunity Theory (Cloward & Ohlin, 1960). Such theories are argued to be of clear value, particularly when conceptualising critical incident engagement as a means of meeting primary needs. Failure to implement a trauma-informed and rehabilitation-orientated approach when understanding and managing critical incident engagement is likely to result in approaches that are incongruent with current day forensic practice, and which is aligned with the globally leading Risks-Need-Responsivity (RNR) model (Andrews & Bonta, 2006). As such, it is fundamental that psychological theory is integrated when understanding critical incident engagement, not least to ensure that approaches are not left trailing behind other aspects of forensic practice, nor ‘held hostage’ to outdated conceptualisations. Furthermore, it is vital that the motivations of critical incident engagement are better understood in order to address societal perceptions that potentially reinforce critical incident engagement, such as viewing incidents as acts of misconduct, defiance, nuisance, or ‘attention seeking’.

The existing literature base has also failed to fully consider the application of psychological theory in regard to potential social and cognitive mechanisms of critical incident engagement. Whilst some socioenvironmental factors have been highlighted as relevant to critical incident engagement, such as learning via interpersonal interactions, and this has been *briefly* discussed in regard to Differential Association theory (Sutherland, 1947) (e.g., Hughes et al., 2018), this is limited overall. For example, to date, there has been no application of social schematic theories, such as Social Identity Theory (Tajfel, 1978; Tajfel & Turner, 1979), and Social Bond

Theory (Hirschi, 1969) when understanding the antecedents and functions of critical incident engagement. As a result, whilst it is acknowledged that the environment plays a contributory role, and that sociocultural and physical aspects of the environment can impact critical incident engagement, there is little understanding regarding the core factors specific to this process.

The lack of integration of psychological theory does not just have academic implications, but also potentially significant clinical implications. A clear and comprehensive understanding of critical incidents is fundamental for subsequent treatment and intervention planning, and this is at the core of proactively mitigating future engagement. The approach to managing critical incidents in a forensic context is largely reactive, and this has perhaps resulted from the perception that such events are often dynamic and unpredictable. Whilst this may be the case in many situations, a broader approach to addressing pertinent risk and vulnerability factors, and fostering protective factors, is required. It is imperative that greater effort is awarded to preventing critical incidents and mitigating associated risks, not least owing to the significant psychological, physical, and economic impacts for all stakeholders, whereby these can be catastrophic in more extreme contexts. To support this aim, it is argued that there is a requirement for a broadening of focus extending beyond operational or procedural factors, to also exploring the range of driving factors.

It is hoped that clearer conceptualisation will pave the way for improved recording and reporting, which in turn will provide a more accurate understanding of prevalence. The precluding chapters highlight the difficulties when relying on existing prevalence data, thus there is potential that engagement in critical incidents is a more significant problem than is currently recognised. With this in mind, and with recognition of the potentially significant ramifications, greater effort is required to ensure that individuals are provided with adequate support, and so that engagement in critical incidents can be minimised. This relies on improved recognition of the protective and promotive factors that serve to mitigate critical incident

engagement, which may be fostered via the inclusion of a comparison or control group, and attention to negotiator perspectives in this regard. This field has also been 'held hostage' to perceptions obtained from single sources, a lack of triangulation, and a lack of attention to all key stakeholders, such as perpetrators of critical incidents and negotiators in various forensic contexts. As such, a more holistic understanding of the nature and extent of critical incidents is required to allow for a more individualised response, and to inform empirically driven practice and policy recommendations. Future research should award consideration to the range of presenting vulnerability and protective factors, and these should be explored from a range of perspectives, and across community and non-community contexts. This forms the basis of the remaining chapters of this thesis.

CHAPTER 5. STUDY ONE

Perpetrator Perspectives of Critical Incidents: An Exploration of Perceived Organism Variables, Antecedents, and Motivations.

5.1 Overview

5.1.1 Aims of study

The aims of study one were threefold and included: (1) to explore the range of perceived *organism variables*, that is, perpetrator perspectives of individual characteristics and attributes that influence their behaviour and functioning in respect of critical incident engagement (2) to examine perceived *antecedents* related to critical incident engagement, that is, triggering events, situations, or stimuli occurring prior to the act or behaviour (3) To explore potential *functions* (motivations) for engagement in critical incidents, based both on perpetrator perspectives, and functional assessment.

5.1.2 Outline of study

Patients who had a history of critical incidents were previously interviewed about one such incident and had completed a SORC functional assessment with a clinical researcher. The functional assessments formed part of existing research data in the hospital and as such there was no direct contact with the individuals who had completed these. The functional assessments included a written account of perceived factors leading to the critical incident, a description of the incident, consequences, and individual background factors considered relevant to the event. No personal or identifiable details were recorded on the qualitative accounts. Thematic analysis was conducted to explore themes within the data pertaining to perceived organism variables, antecedents, and motivations.

5.1.3 Preliminary assumptions

As the research was exploratory in nature and a qualitative approach was utilised, there were no specific hypotheses related to the findings. However, based on the previously discussed literature, the below preliminary assumptions were made, thus a deductive approach was implemented, with openness to emergent themes.

Assumption 1: Based on existing research (e.g., Ireland et al., 2014), it was expected that there would be *a range* of organism variables, yet that these would extend beyond diagnostic constructs, and relate to psychosocial functioning.

Assumption 2: Socio-cultural environmental (external), and internal antecedents would be noted as relevant to critical incident engagement.

Assumption 3: There would be *a range* of fluctuating and interacting functions.

5.2 Method

5.2.1 Sample

The sample comprised data pertaining to 13 critical incidents previously gathered from individuals residing in a high secure forensic psychiatric hospital. Six incidents met the definition of hostage taking, five incidents were defined as a barricade, and two incidents were protests. As the study involved access to anonymised data, no demographic information was available, yet all data was collected from participants residing in a male-only setting. No timeframes were captured as part of the initial data collection and participants were simply asked to focus on the most memorable critical incident that they had engaged in. Approval was granted from the UK NHS North West Committee (66937/185424/1/737) for collection of the original data, yet as this study did not involve direct access to patients, further approval for

access to anonymised data was obtained from the Mersey Care NHS Trust Research and Development Committee.

5.2.2 Procedure

Of the 15 functional assessments accessed, 13 were deemed to include sufficient data for subsequent thematic analysis. Qualitative data from the SORC assessments was coded and thematically reviewed. Thematic analysis was used to determine, analyse, and report themes (patterns) within the data (Braun & Clarke, 2006). The data was explored and reviewed on multiple occasions and common themes were identified. Initially, a comprehensive coding scheme was developed to capture the range of data collected. The relevance of these codes to the aims of the research, theory and practical implications were considered before more focused coding (theme identification) was completed. Themes that were relevant to the research aims were then selected for more rigorous analysis. This included making repeated comparisons between different parts of the dataset and the evolving analysis. Inter-rater reliability was completed with the whole data set. In addition, the data from each participant was reviewed narratively to ensure that the interrelation of themes within a particular case was not disregarded.

5.2.3 Measures

SORC functional assessment framework (Lee-Evans, 1994).

The SORC is a functional assessment framework which was devised to assess and understand the functional relationship between specific behaviours and the variables that influence them (Ireland, Ireland & Birch, 2008). The SORC framework posits that behaviours are influenced by antecedent events/setting conditions (S), organism variables (O), the response(s) (R), and the resulting consequences (reinforcers) (C) (Lee-Evans, 1994). The SORC is completed collaboratively with a practitioner/researcher and an individual, and this may include the use

of specific prompts, thus allowing for exploration of the function of behaviour (Lewis & Ireland, 2009). The first step of the SORC assessment is to identify a focus or target behaviour, which in this instance was the most memorable time an individual engaged in a critical incident. Collaboratively, the stimuli or triggers to the behaviour are then explored, which include both external events and internal states preceding the behaviour. Organism variables, such as biological or psychological factors that may influence the behaviour are then identified, and the internal and external consequences explored, from both an immediate and long-term perspective. Finally, the collected data is evaluated, and the function of the behaviour is hypothesised to inform intervention and treatment needs. An example SORC template with example prompts is included in Appendix 1.

5.3 Results

This results section presents the synthesis of findings from the thematic analysis pertaining to the research questions, that is, themes relating to *organism variables*, *antecedents*, and *functions* (motivations) of behaviour. To ensure anonymity, details of the behaviour (response) have been omitted, as this information bears no relevance to the research questions. Moreover, it is notable that whilst an exploration of potential differences based on the nature of incident was not a research aim of this study, the themes were relevant to all types, that is, hostage takings, barricades and protests, and no differences were observed based on incident type.

5.3.1 Summary of themes - Individual background factors (organism variables)

Seven main themes related to *individual background factors* were identified: (1) coping related factors, (2) personality factors, (3) criminal background, (4) mental health factors, (5) unhelpful beliefs, (6) prior experience of critical incidents, and (7) history of substance misuse. It is noteworthy that all participants engaging in critical incidents presented with a combination of individual background factors. A thematic diagram is presented in Figure 5.1 to illustrate each

identified theme and subtheme pertaining to organism variables, with the narrative of each following thereafter.

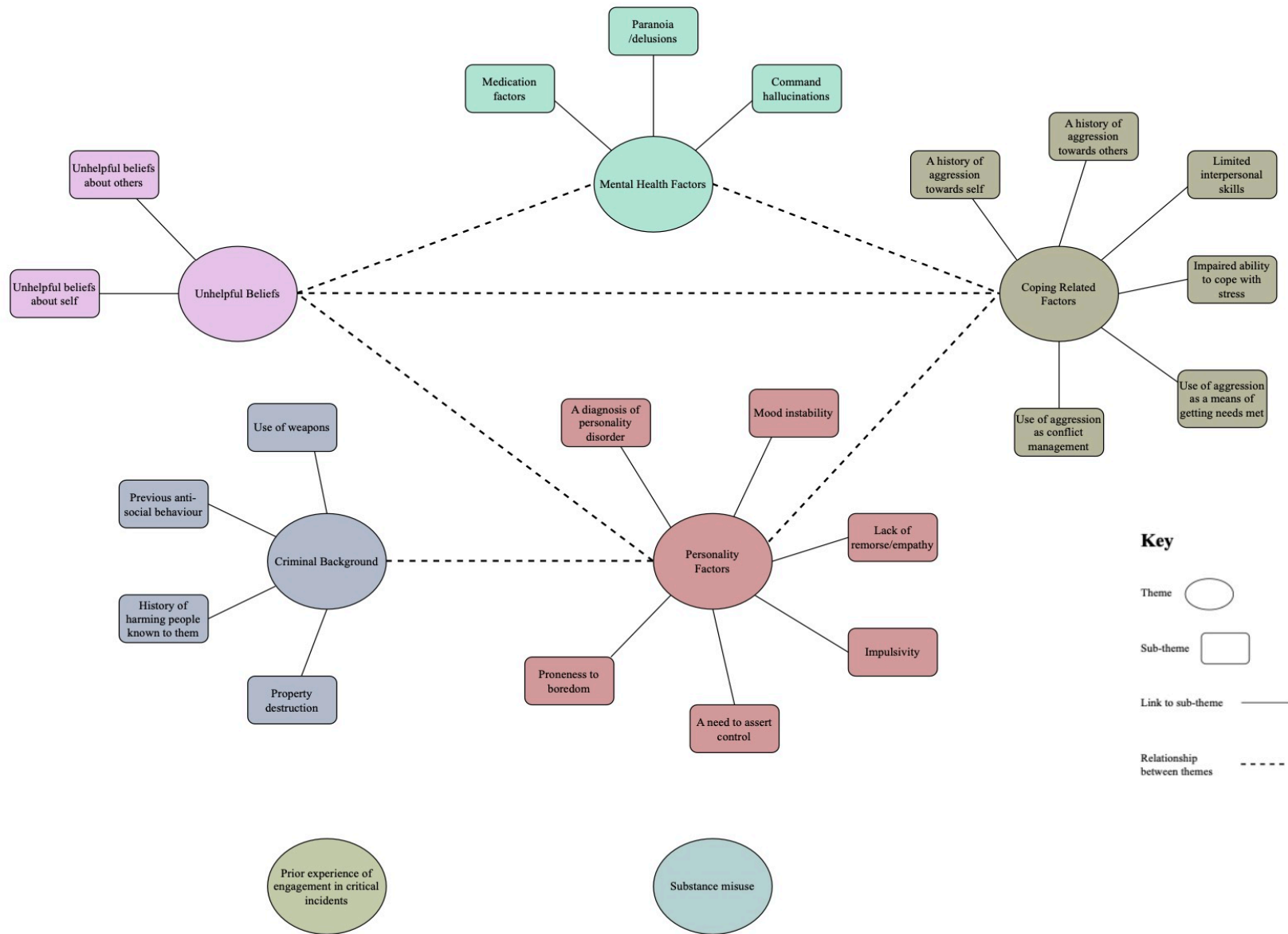


Figure 5.1: Thematic diagram illustrating each theme relating to organism variables, and each respective subtheme.

5.3.2 Thematic synthesis

Organism variables:

Theme 1 – Coping related factors.

All but one individual reported a history of difficulties with regard to impaired/reduced coping ($n = 12$). Difficulties primarily related to challenges in respect of emotion regulation, coping with change, and stress/distress tolerance. All individuals reporting a history of difficulties with coping also reported the utilisation of an avoidant coping style, such as the use of inwardly (e.g., self-injurious behaviour and attempted suicide) and externally (e.g., verbal and physical aggression) directed behaviour in order to cope with internally perceived distress. 50% of those reporting historic coping difficulties ($n = 6$) noted an impulsive style of coping, for example, stating that “*violence is the best way of quickly getting rid of stress*” (P3). Six subthemes were identified. These included (1) a history of aggression towards self, (2) aggression towards others, (3) limited interpersonal skills, (4) use of aggression as conflict management, (5) use of aggression as a means of getting needs met and (6) impaired ability to cope with stress.

Subthemes

Subtheme 1: related to ‘a history of aggression towards self’, such as “*cutting with a razor blade*” (P2), “*headbanging*” (p9), “*biting lip and punching walls*” (P8) and “*numerous attempts to kill [my]self*” (P2). Of those reporting a history of coping difficulties ($n = 12$), seven (58.3%) reported a history of self-injurious behaviours, with two individuals (16.7%) describing this as ‘extensive’.

Subtheme 2: related to ‘a history of aggression towards others’, and which was reported by 11 individuals who reported experiencing past difficulties with coping (91.7%). Aggression towards others included a history of offences against the person, the use of violence to regulate emotions, aggression in response to under/over arousal, and both verbal and physical

aggression. For example, one individual stated, *“I’d just smash whoever was there mate, sometimes ‘cos I felt bullied, other times just ‘cos I could” (P1).*

Subtheme 3: ‘limited interpersonal skills’, was reported by four individuals (33.3%) who reported past difficulties with coping. This included difficulties such as adjusting to new environments with unfamiliar others, anxiety when meeting new people, and methods of behavioural communication with others in the absence of interpersonal skills. For example, one individual stated, *“Because I didn’t know the right words to say, I let my actions to the talking. I always bullied other kids, so I learnt from an early age that scaring people speaks volumes” (P15).*

Subtheme 4: which related to ‘use of aggression as a means of conflict management’ linked to limited interpersonal skills and was reported by 9 (75%) of those ($n = 12$) reporting a history of difficulties with coping. This included attempts to solve conflict and the exacting of revenge in response to conflict, and also linked to subtheme 2: ‘a history of aggression towards others’. This also included escalations to violence where other attempts at resolving conflict had been unsuccessful, for example, one individual stated, *“anger always quickly turns to arguments for me, which always end in claret [referring to blood sustained from injury/physical aggression], I try to talk it out, but it never ends well” (P11).*

Subtheme 5: related to ‘use of aggression as a means of getting needs met’, which was reported by 9 (75%) of those ($n = 12$) reporting a history of difficulties with coping. Subtheme 5 was also linked to subtheme 3: ‘limited interpersonal skills’. Identified needs included to gain and maintain reputation, to scare others into meeting demands and to gain access to required belongings. For example, one individual stated, *“I get so pissed off when they say I can’t have my stuff. I’ve never liked the word no, whenever I wasn’t allowed things my family sent me, I’d*

kick off. I was the same when I was a kid. If I didn't get what I wanted or needed, I'd argue and then boot off" (P1).

Finally, subtheme 6: related to 'impaired ability to cope with stress', which was reported by 10 (83.3%) of those ($n = 12$) reporting a history of difficulties with coping. Subtheme 6 was also linked to subtheme 3: 'limited interpersonal skills'. This largely related to difficulties managing and tolerating stress, failure to seek and utilise support, and the use of poor coping responses, such as habitual aggression and self-injurious behaviour.

Theme 2 – Personality factors

Whilst the percentage of those reporting a diagnosis of personality disorder was high overall (84.6%), 100% of individuals ($n=13$) reported a history of personality difficulties. Such difficulties reportedly resulted in challenges with affective, behavioural, and cognitive instability across the life trajectory. Theme 2 'personality factors' also linked with theme 1 'coping related factors'. Six subthemes were identified. These included (1) a diagnosis of personality disorder, (2) mood instability, (3) lack of remorse/empathy, (4) impulsivity, (5) a need to assert control and (6) proneness to boredom.

Subthemes

Subtheme 1: 'diagnosis of personality disorder' included data from nine individuals (69.2%) who reported a formal diagnosis of personality disorder, and two individuals (15.4%) who reported a diagnosis of 'probable' personality disorder, (severity/type undetermined). Of the 13 individuals who completed a functional assessment, six (46.2%) reported a diagnosis of Anti-Social Personality Disorder (ASPD), with five of these presenting with co-morbid diagnoses of other personality disorders, such as Narcissistic Personality Disorder (NPD) ($n =$

1) and Borderline Personality Disorder (BPD) ($n = 4$). Three individuals (23.1%) reported a diagnosis of Psychopathy.

Subtheme 2: related to ‘mood instability’ and was reported by five individuals (38.5%). This included fluctuations in mood and experience of low mood, with one individual stating “*when my mood gets low and I hit rock bottom, I feel like I’m better off dead, but then I bounce back quite quick*” (P3).

Subtheme 3: related to a history of ‘lack of remorse/empathy’, which was reported by three individuals (23.3%). This included challenges with regard to associated skills, such as perspective taking, and disregard for the feelings of others. For example, one individual stated, “*I can’t say I’ve ever been bothered about hurting others, even people I know*” (P7), and another stated, “*I felt irritated and angry that the hostage struggled. I have no conscience. I am dangerous*” (P1).

Subtheme 4: related to ‘impulsivity’, with this also relating to subtheme 2: ‘mood instability’. This related to a reported tendency to act without thinking, with one individual stating “*I’ve always been impulsive, if there’s a buzz to be had, I tend to think fuck it, and just do it*” (P3).

Subtheme 5: related to ‘a need to assert control’, which was reported by six individuals (46.2%), and this was reported as a salient personality trait across the life trajectory. For example, one individual stated, “*I like to be in control, I feel angry if I’m not*” (P11).

Finally, Subtheme 6: related to ‘proneness to boredom’, which also was also associated with subtheme 4 “impulsivity”. This was reported by two individuals (15.4%) who both reported challenges with regard to under arousal, for example “*when I’m bored and there’s nothing to do, I always think of what is the quickest way to get that buzz*” (P3).

Theme 3 – Criminal Background

A history of criminal behaviour was also found to be evident for participants who engaged in critical incidents. 13 individuals (100%) reported a forensic history of aggression towards others. Four subthemes were identified including (1) previous anti-social behaviour, (2) use of weapons, (3) history of harming people known to them, and (4) property destruction.

Subthemes

Subtheme 1: related to a history of anti-social behaviour, which was reported by all 13 individuals. This included a history of violent offences (100%), and an extensive history of planned acts of aggression against others, (n = 9, 69.2%).

Subtheme 2: related to ‘a history of weapon use’, including the use of knives, guns, baseball bat and fashioning weapons. This was reported by three individuals (23.1%).

Subtheme 3: related to a history of ‘harming people known to them’, which was reported by four people (30.8%) and included domestic violence, criminal conviction for assaulting a friend, and use of aggression towards parents.

Finally, Subtheme 4: related to a history of ‘property destruction’, which was reported by two individuals (15.4%), and included a prior conviction for criminal damage and previously “*smashing up*” properties during altercations (P7).

Theme 4 – Mental health factors

A history of factors related to mental health were also identified as relevant to engagement in critical incidents. Nine individuals reported a formal mental health diagnosis (69.2%), with eight people describing this as paranoid schizophrenia (61.5%), and one person reporting comorbid depression (7.7%), and another person reporting a diagnosis of schizoaffective disorder (7.7%). Theme 4 ‘mental health factors’ also linked with theme 1: ‘coping related

factors'. Three subthemes that highlighted more specific symptomatology were identified. These included (1) paranoia/delusions, (2) command hallucinations, and (3) factors associated with medication (e.g., side effects or withdrawal).

Subthemes

Subtheme 1: included a history of paranoia/delusions, which was reported by 3 individuals (23.3%). This included paranoid beliefs about being watched and others wanting to attack/kill them, and paranoid delusions that staff were being abusive. For example, one individual stated, *"I always think staff are trying to touch me up when doing rub down searches, I think everyone on the ward is trying to kill me"* (P9).

Subtheme 2: related to a history of command hallucinations, which was reported by 3 individuals (23.3%) and included commands to hurt others, auditory hallucinations, and in one case (7.7%), *"commands to take hostages"* (P3).

Finally, Subtheme 3: was 'medication related factors', which were reported by 3 individuals (23.3%). Medication related factors included side effects, poor compliance with prescribed medication, and limited responsivity due to simultaneous use of illicit drugs.

Theme 5 – Unhelpful beliefs

A history of unhelpful beliefs was noted to relate to the perpetration of critical incidents by five individuals (38.5). Theme 5: 'unhelpful beliefs' was also linked with theme 4: 'mental health factors'. Two subthemes were identified, including (1) unhelpful beliefs about the self and (2) unhelpful beliefs about others.

Subthemes

Subtheme 1: related to 'unhelpful beliefs about the self' (e.g., grandiosity/worthlessness) (n=3).

Subtheme 2: related to ‘unhelpful beliefs about others’ (e.g., racism/homophobia/ offence specific) (n=2). Subtheme 1 and 2 was also associated with Theme 2, subtheme 1: ‘a diagnosis of personality disorder’ and subtheme 3: ‘lack of remorse/empathy’. For example, one person stated, *“I believe I am special, I deserve respect, I have the ability to take the life of another”* (P12), and another stating, *“all sex offenders should be punished. If I’m around them, I’ll make their life hell. I’m dangerous (P9).*

Theme 6 – Prior experience of a critical incident

A history of engagement in critical incidents was noted to be a background factor for individuals who perpetrate critical incidents. This was noted to include actual perpetration and threats to engage in hostage taking and barricades. Nine out of 13 participants (69.2%) reported a history of repeated critical incident engagement.

Theme 7 – History of substance misuse

A history of substance misuse was reported by six individuals (46.2%). In all cases, this included non-recreational and excessive polysubstance use, which commenced in late childhood/early adolescence (age 12-14) and continued into adulthood and when residing in secure services. A history of symptoms related to substance misuse were also reported and this also linked to theme 4, subtheme 1: ‘paranoia/delusions’ with one person stating, *“crack would make me more paranoid; I’d start imaging scary stuff and think people were listening in”* (P3). This theme also linked with theme 1, subtheme 6: ‘impaired ability to cope with stress’, with one person noting, *“I used gear because I couldn’t cope with the stress in my life, but using gear made it even harder to cope”* (P7).

5.3.3 Summary of themes – Antecedents (events/stimuli occurring prior to the event)

Five main themes related to events or stimuli occurring prior to a critical incident were identified by individuals who had perpetrated a critical incident. These included (1) environmental factors, (2) experience of difficult emotion, (3) feeling challenged/disempowered, (4) a significant event and (5) use of substances/intoxication. It is of note that individuals often reported the presence of multiple antecedents, and that these were never reported in isolation. Moreover, in all cases, individuals reported a combination of internally experienced antecedents, and external environmental triggers. A thematic diagram is presented in Figure 5.2 to illustrate each identified theme and subtheme pertaining to antecedents, with the narrative of each following thereafter.

Key

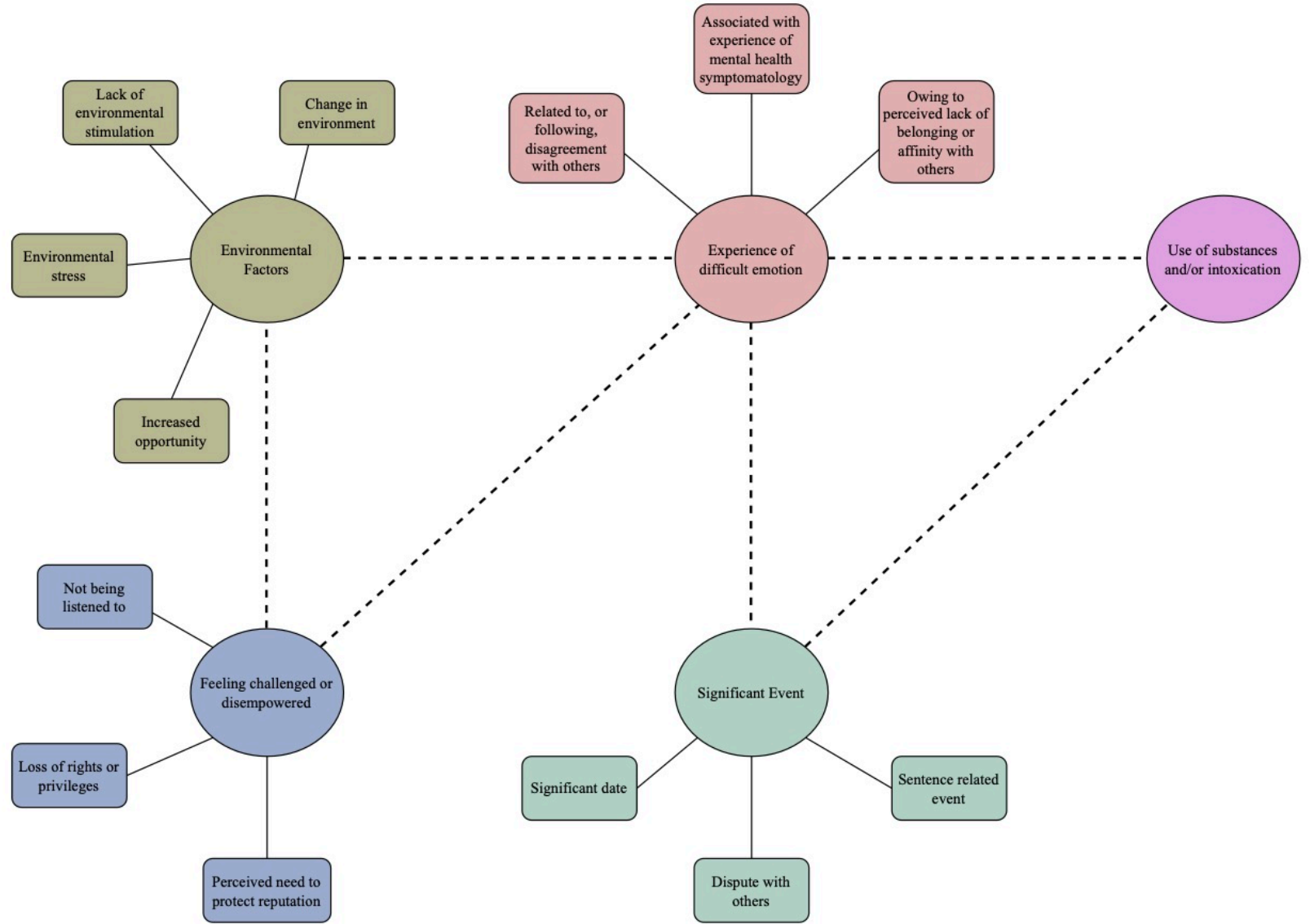
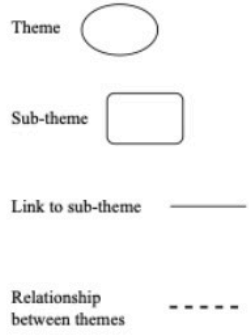


Figure 5.2: Thematic diagram illustrating each theme relating to antecedents, and each respective subtheme.

5.3.4 Thematic synthesis

Antecedents:

Theme 1 – Environmental factors

Nine individuals (69.2%) reported that their engagement in critical incidents was triggered by external environmental factors. Four subthemes were identified. These included (1) the experience of environmental stress, (2) change in environment, (3) lack of environmental stimulation, and (4) increased opportunity.

Subthemes

Subtheme 1: ‘environmental stress’, was reported by eight individuals (61.5%), and related to overstimulation, increased risk from others in the environment, overcrowding, and lack of opportunity to escape/remove oneself. For example, one individual stated *“it started to feel too busy, and it felt dangerous, there were too many people on the wing, there was no escape. There was an Asian guy staring at me during lunch who I didn’t know. I wanted to get out of prison, and I thought hostage taking would achieve that”* (P3).

Subtheme 2: related to ‘a lack of environmental stimulation’, which pertained to a lack of structure, routine, and varied activities. This was reported to be an antecedent by two individuals (15.4%), with one individual noting *“there was nothing going on. It was pure boredom. I’d seen it on prison documentaries before and barricading looked fun. I just wanted to amuse myself”* (P10).

Subtheme 3: related to ‘opportunity’, and this was reported by four individuals (30.8%). This included factors such as reduced staffing and the opportunity to create a distraction. One participant stated *“they’d cut down staffing so there was hardly nobody about. One of the lads pressed the bell to distract everyone, so I climbed on the roof”* (P9).

Finally, Subtheme 4: related to ‘a change in environment’ and was reported by three people (23.1%). This was often reported when individuals did not agree with a change in factors related to the environment (e.g., rule changes), or when they wanted to be moved to a different environment. For example, one individual noted. *“I got moved for shaving my head. I wasn’t allowed to the canteen. Being moved meant I couldn’t have a pad-mate. I wanted off that wing”* (P11).

Theme 2 – Experience of difficult emotion

Experience of difficult emotion was also noted to be an antecedent to critical incidents by 12 individuals (92.3%). Within this theme, three subthemes were identified, these included (1) difficult emotion associated with experience of mental health symptomatology, (2) difficult emotion related to, or following, disagreement with others, and (3) difficult emotion owing to perceived lack of belonging or affinity with others. This theme also linked with environmental factors, for example where this related to sociocultural aspects of the environment, or disagreement with others in the shared social environment.

Subthemes

Subtheme 1: ‘difficult emotion associated with experience of mental health symptomatology’ was reported by six individuals (46.2%). This related to feeling depressed hopeless, angry, frustrated, jealous, powerless and ‘wound up’ as a result of reduced mental health. For example, one individual stated, *“because of my paranoid schizophrenia, I thought my bird [girlfriend] was cheating. I felt jealous. I didn’t want her to go out. So, I locked us both in the bedroom”* (P7).

Subtheme 2: ‘difficult emotion related to, or following, disagreement with others’, was reported by eight individuals (61.5%). This related to disagreement with staff, friends, and family

members, and often included rumination regarding this. For example, one person stated, *“I’d lost my mum, I’d split up with my girlfriend. I hated everyone and everything. No one visited me. I felt like the black sheep of the family. There was no going back”* (P6).

Finally, Subtheme 3: related to difficult emotion owing to perceived lack of belonging or affinity with others, which was reported by two individuals. This related to feelings of isolation, loneliness, and feeling different to others, for example, one individual stated, *“I was on my own. Just me. No one to talk to, no one to connect with. Now I think of it, I was lonely, it’s sad really”* (P13).

Theme 3 – Feeling challenged or disempowered.

10 individuals (76.9%) reported that their engagement in critical incidents was triggered by them feeling challenged or disempowered. Three subthemes were identified, including (1) loss of rights or privileges, (2) a perception of not being listened to, and (3) a perceived need to protect reputation. This theme also linked with environmental factors, for example where this related to overcrowding or under-staffing, and this resulted in people feeling disempowered.

Subthemes.

Subtheme 1: ‘loss of rights and privileges’ was reported by seven people (53.9%) and related to the implementation of new and existing rules, and restrictions on perceived basic rights. This also linked with theme 1, subtheme 1: ‘environmental stress’. For example, one person stated *“Staff were changing the rules to suit them. Rules were enforced about when I could smoke a cigarette. I couldn’t get my Christmas present off my mum because of rule changes. I didn’t know if I was coming or going. It was a two week wait just to see the doctor”* (P1).

Subtheme 2: ‘a perception of not being listened to’ was reported by six people (46.2%) and also linked with theme 1, subtheme 1: ‘environmental stress’. This included a perceived

inability to identify action when issues were raised with staff. For example, one individual stated, *“I wasn’t being listened to. There were no staff to speak to because of money cuts. I got brushed off, no one wanted to listen, so I created a situation where they would have to”* (P9).

Finally, subtheme 3: ‘a perceived need to protect reputation’ was reported by three individuals (23.1%). This included a perceived need to make a statement to peers, with one person stating *“I’d just got a life sentence. It’s important to be seen as a bully in prison. I decided to take the biggest lad out, so I bear gripped him, dragged him to his cell and took him hostage”* (P5). This also related to the seeking of retribution, with another person stating, *“someone nicked 20 cigs [cigarettes] off me. No one would own up. I’m the boss of the family. I had to show them I’m in charge. No one steals from someone like me”* (P12).

Theme 4 – Significant event

5 individuals (38.5%) reported that their engagement in critical incidents was triggered by the experience of a significant event. Three subthemes were identified, including (1) a significant date, (2) a sentence related event, and (3) dispute with others. This theme also linked with theme 2: ‘experience of difficult emotion’.

Subthemes

Subtheme 1: ‘a significant date’ was reported by three individuals (23.1%) and included events such as the anniversary of an index offence, the birthday of a loved one, and Christmas.

This also related to theme 2: ‘experience of difficult emotions’. For example, one person stated, *“there was a one-week build-up of emotion around Christmas time, I couldn’t see my family, I wasn’t allowed my Christmas presents”* (P1). Subtheme 2 was reported by four people (30.8%) and included ‘sentence related events’, such as adjudications, tribunals, parole refusal, and

sentencing. For example, one individual noted, *“there was a lot going on for me, I had a tribunal coming up, there was a lot on my mind” (P13).*

Subtheme 3: related to ‘dispute with others’, and which also related to theme 3, subtheme 3: ‘a perceived need to protect reputation’. This was reported by three individuals (23.1%) and related to disputes with staff, fellow service users, and within intimate relationships. For example, one person stated, *“I had been arguing with my girlfriend for about two hours. We had a fight and she tried to stab me and hit me with a baseball bat, so I took it off her and took her hostage” (P7).*

Theme 5 - Use of substances and/or intoxication

Four individuals (30.8%) reported that their engagement in critical incidents was a result of substance use or intoxication, with all individuals attributing this to the pharmacological impacts of substance use. This theme also linked to theme 2: ‘experience of difficult emotions’, and theme 4: ‘significant event’, and subtheme 3: ‘dispute with others’, in particular. For example, one individual stated, *“I was using fet [amphetamine] everyday, but this day I’d also taken coke [cocaine] and had a few pints of beer. I couldn’t think straight, my head went west. Everything felt so big in my head. At the time it only felt like there was one option’ (P7).*

5.3.5 Summary of themes – Functions (motivations) of critical incidents

Six main themes related to the functions of critical incidents were identified. These included the perpetration of critical incidents to (1) achieve a specific goal, (2) cope with or remove difficult emotions/symptoms, (3) make others listen, (4) gain a positive experience and/or emotions, (5) seek a sense of belonging/affinity with others and (6) establish sense of power/control. Again, it is noted that a combination of functions was present for each incident, and these appeared interrelated and multi-faceted. A thematic diagram is presented in Figure 5.3 to illustrate each identified theme and subtheme pertaining to functions, with the narrative of each following thereafter.

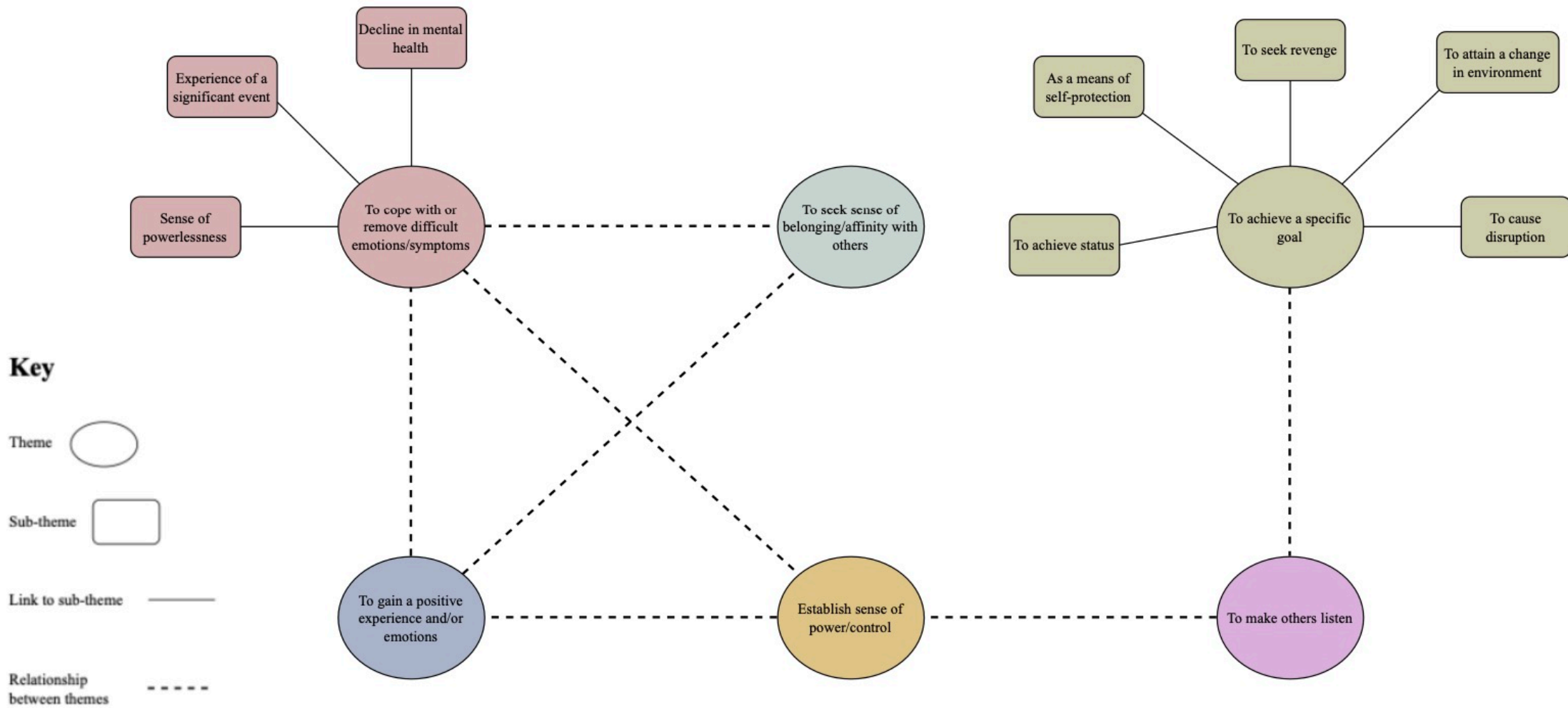


Figure 5.3: Thematic diagram illustrating each theme relating to functions, and each respective subtheme.

5.3.6 Thematic synthesis

Functions (motivations) of critical incidents:

Theme 1 – To achieve a specific goal.

Eight individuals (61.5%) reported that the motive underpinning their engagement in critical incidents was to achieve a specific goal. Five subthemes were identified, these included (1) to achieve status, (2) to seek revenge, (3) to cause disruption, (4) to attain a change in environment, and (5) as a means of self-protection.

Subthemes

Subtheme 1: ‘to achieve status’ was reported by three individuals (23.1%). This related to the goal of establishing dominance and hierarchy on the unit, with one person stating, *“I can get respect by doing something gruesome, I made sure everyone knew about it so they see me as the ‘hit-man’. This reputation has led to me having my own cell” (P11).*

Subtheme 2: ‘to seek revenge’ was reported by six people (46.2%), and this included revenge against specific individuals, and also revenge on a wider level, such as “against the system” (P6). For example, one participant stated, *“I felt cocky, I wanted to piss of the governor as revenge for locking me up 23 hours a day” (P6).*

Subtheme 3: ‘to cause disruption’ was noted by two individuals (15.4%), with one person stating, *“it was about causing chaos on the biggest scale possible. I flooded the cell. I flooded the block. I encouraged others to do the same, which they did” (P6).*

Subtheme 4: ‘to attain a change in environment’ was reported by seven people (53.9%). This included engaging in a critical incident to achieve a move to another ward/wing, or a completely different setting. For example, one individual stated, *“I got told my friend was*

moving off the wing at teatime. If he was going, we all were. So, we smashed up the place and we barricaded in” (P4).

Subtheme 5: ‘as a means of self-protection’ was reported by one person (7.7%), with them noting, *“I went on the roof so they [staff] couldn’t get me, I was convinced they [staff] were touching me up. It was either hurt someone or go on the roof” (P9).*

Theme 2 – to cope with or remove difficult emotions/symptoms.

12 individuals (92.3%) reported that the motive underpinning their engagement in critical incidents was to cope with, or remove, difficult emotions or symptoms. Three subthemes were identified, these included (1) to cope with a decline in mental health, (2) to manage the experience of a difficult/significant event, and (3) to remove a sense of powerlessness.

Subthemes

Subtheme 1: ‘to cope with a decline in mental health’ was reported by eight people (61.5%), this primarily related to the removal of paranoia and other psychotic symptomatology, yet this was also related to decline in general mental well-being. For example, one person stated, *“I felt in chaos. I just wanted to be alone” (P2)*, and other stated *“I was feeling unwell, I was getting more delusional and paranoid by the day. On the day, the nurses said I was responding more [to unseen stimuli]. I was having very violent thoughts. I did this to get rid of the violent thoughts” (P3).*

Subtheme 2: ‘to manage the experience of a difficult/significant event’ was reported by three individuals (23.1%). This related to bereavement, the ending of a relationship, and separation from peers. For example, one person stated, *“it sounds mad I know, but I did this to try and save my relationship. After the fighting, I knew it [the relationship] was over. I took her hostage whilst I come to terms with it and so I could get my point across” (P7).*

Subtheme 3: ‘to remove a sense of powerlessness’ was reported by seven people (53.9%). For example, one individual stated, *“I wanted some power back, I hated feeling like a mug, I felt powerful again for a bit” (P1).*

Theme 3 – to make others listen

Four individuals (30.8%) reported they engaged in a critical incident in order to make others listen, with this relating to a desire to be taken seriously and a perceived need to get across a point. For example, one person stated, *“I needed to speak to the governor and that meant going through the riot team. I wanted to make sure people knew I was no grass. I made sure I was loud enough. They might have been busy, but I was now a priority” (P5).*

Theme 4 – To gain a positive experience and/or emotions

Six people (46.2%) stated that they engaged in a critical incident to gain a positive experience and/or emotions. This primarily related to positive arousal, such as a buzz, ‘adrenaline rush’, or sense of excitement, yet this also related to other positively valued emotion, such as a sense of relief. For example, one individual stated, *“I felt a massive buzz, I was pacing up and down, breathing faster, and I had butterflies in my stomach. I found the whole thing funny and laughed, they moved me afterwards and that was what I wanted. It was much better for me, and it paid off. Sometimes you can get your thrills for free” (P3).*

Theme 5 – To seek sense of belonging/affinity with others.

Three individuals (23.1%) stated that they engaged in critical incidents in order to achieve a sense of belonging with others. This included perpetrating critical incidents with others, for example, one person noted, *“we felt like one team, but with different causes. The others had different demands. One wanted the media involved and tobacco. It felt good to be a part of something, even though I lost a lot of blood” (P9).* Another individual spoke about engaging

in a critical incident in order to achieve a sense of cultural belonging, with them noting *“I felt alone and isolated here because all the staff were from a different ethnic background. When I had the hostage, I asked to speak to someone from my background. I don’t care if it’s racist, I needed to connect with my people” (P1).*

Theme 6 – To establish a sense of power/control.

Seven individuals (53.9%) reported that they engaged in a critical incident in order to establish a sense of power or control. All but one individual reported this to be in the context of regaining control or power, which was perceived to have been lost. For example, one person stated, *“I felt so smug and in control. I was holding all the cards for once. Straight away I knew they couldn’t handle me and that gave me back the control I needed” (P6).* This theme was noted to link with environmental factors, for example, in the context of restricted choice and/or environmental constraints. One individual reported that the function was to assert control and power over others for purposes of enjoyment, with them stating, *“I wanted to make them frightened, so I was the boss man. I liked having the power if they wanted or needed anything. I got to decide how this ended and who got out alive” (P12).*

5.4 Discussion

Study one included the perceptions of individuals who have a history of engaging in critical incidents and who reside in a secure forensic psychiatric hospital. Factors perceived to be relevant to the perpetration of critical incidents, including individual background factors (organism variables), stimuli occurring prior to the event (antecedents), and motivations (functions) were explored. Specifically, study one involved thematic analysis of functional assessments that were undertaken pertaining to a past hostage, barricade, or protest situation. Exploring such factors was considered pertinent to informing the potential factors underpinning

critical incident engagement, and the study was designed to capture the perceptions of perpetrators, who have received little attention in the literature to date (Ireland et al., 2014).

It is noteworthy that the factors identified were not reported in isolation for each event, but a combination and interaction of factors was often noted to be present. This replicates the findings of existing research (i.e., Hughes et al., 2018; Ireland et al., 2014), thus suggesting that there is more to be gleaned from further understanding factors leading to the critical incident than simply exploring differences based on incident type. This can also be understood in the context of General Strain Theory (Agnew, 1992), where maladaptive behaviour occurs a result of strain related to several variables (Agnew & Brezina, 2019). As such, this finding further supports the notion that critical incident engagement may be an aggregate construct. Moreover, there was no difference noted regarding the critical incident type, that is, similar themes were identified for hostage-taking, barricades, and protests. Nevertheless, this may be owing to the methodological approach, as it is unlikely that the functional analysis would pick up the more subtle differences that *may* relate to different types of critical incident.

The findings of study 1 highlighted several themes related to individual background factors (organism variables) in individuals who engage in critical incidents. The first theme, coping-related factors, highlights the challenges faced by such individuals in managing and regulating their emotions, coping with change, and distress tolerance. This supports previous findings (e.g., Brown & Ireland, 2006; Hughes et al., 2018; Ireland et al., 2014, 2015). It is noteworthy that all but one individual reported a history of difficulties with coping, thus indicating that this is a core theme of relevance. Nevertheless, it is recognised that individuals residing in secure psychiatric settings tend to experience reduced coping ability (Dixit et al., 2011), and that coping and problem-solving has been found to be impaired amongst offender populations, and

those experiencing mental illness (McMurrin et al., 2001). As such, the high prevalence of reported coping related factors may be owing to the population sampled.

Coping difficulties were often accompanied by the implementation of avoidant coping strategies, such as self-injurious behaviour and aggression, thus directed towards oneself and others. This finding suggests that individuals who engage in critical incidents may utilise maladaptive coping mechanisms as a method of coping with internal distress or strain, and which further supports the application of General Strain Theory (Agnew, 1992). The identified subthemes within this theme further highlight specific coping-related difficulties, including a history of aggression towards oneself and others, limited interpersonal skills, the use of aggression as a means of conflict management, the use of aggression to meet needs, and impaired ability to cope with stress. This adds to existing literature, allowing for a more nuanced understanding of relevant and *specific* coping challenges related to psycho-social functioning, which may also avoid the overgeneralised perception of critical incident engagement as poor coping.

The coping related difficulties identified in study one mirror the previously discussed internal factors highlighted as relevant by General Strain Theory (Agnew, 1992) in the context of maladaptive coping with strain (Agnew & Brezina, 2019). It is argued that viewing critical incident engagement as a method of coping with strain is more likely to engender a supportive and problem-focussed response from responding individuals, and those involved in care and treatment delivery. Moreover, study one found that coping ability was largely dependent upon environmental factors, such as an ability to cope and respond to changes in the environment, level of social support, community belonging, and availability of community resources. Therefore, the findings further support the integration of General Strain Theory (Agnew, 1992), and several of the internal and external conditioning variables noted as relevant to strain related

misconduct (i.e., Agnew & Brezina, 2019) were also found to be relevant to critical incident engagement.

The second theme for organism variables, personality factors, highlights the presence of personality difficulties in individuals who engage in critical incidents. It is noteworthy that all individuals reported a history of personality difficulties, and the majority (84.6%) reported a formal diagnosis of personality disorder. Previous research has found that personality disorder, and specifically Anti-Social Personality Disorder and Borderline Personality Disorder, is highly prevalent amongst those who engage in critical incidents (e.g., Coid, 2002; Mailloux & Serin, 2003). This was also found to be the case in study one, yet it is acknowledged that prevalence may be inflated owing to the forensic-psychiatric population sampled. Nevertheless, the identified subthemes within this theme highlighted various personality factors extending beyond the presence of a diagnosed personality disorder, such as mood instability, lack of remorse/empathy, impulsivity, a need to assert control, and proneness to boredom. As such, these findings support those of Ireland et al., (2015), suggesting that certain personality traits are associated with critical incident engagement, and further enhance understanding of potentially relevant traits. This is considered more helpful in respect of informing targeted intervention and preventative strategies.

The third theme for organism variables, criminal background, indicates a history of criminal behaviour among participants. All individuals reported a forensic history of aggression towards others, yet due to sampling bias, it cannot be concluded that this is relevant to all cases of critical incident engagement. However, the subthemes identified do offer a more comprehensive understanding. The identified subthemes within this theme include a history of anti-social behaviour, the use of weapons, a history of harming people known to them, and property destruction. That is not to say that a history of criminal behaviour is a predictor of

critical incident engagement, yet historic challenges may be indicative of a pattern of dysfunctional coping, as captured by General Strain Theory (Agnew, 1992). Indeed, strain theorists posit that ‘criminal coping’ is more likely amongst individuals who have poor conventional coping skills and reduced problem-solving abilities, and this can be exacerbated by internal factors such as deficits in interpersonal functioning (Agnew & Brezina, 2019).

Mental health factors were highlighted as a predisposing factor for critical incident engagement, yet it is again acknowledged that findings may have been impacted by the population sampled. Over two thirds of individuals (69.23 %) reported a formal mental health diagnosis, with paranoid schizophrenia being the most prevalent diagnosis. Not surprisingly, this exceeds the most recent statistics based on mental health prevalence in a community sample, which was 44.6% (n =74) (Grubb, 2020), yet is less than reported prevalence in other studies, which was 97% (Feldmann, 2001). It is, however, notable that the qualitative research approach and self-report methodology utilised in study one does not lend itself to addressing this complex phenomenon, not least as it relies on a degree of insight into mental health diagnosis and impacts on functioning.

Mental health factors were identified as highly associated with coping related factors, which further supports the application of General Strain Theory (Agnew, 1992) in respect of coping with subjective strain (Agnew, 1992). As such, further research is required to understand the extent to which the relationship between mental health and critical incident engagement is mediated by internal factors, such as coping with subjective strain. The identified subthemes for mental health factors highlighted specific aspects including paranoia/delusions, command hallucinations, and factors associated with medication. These findings are consistent with existing research, which highlights that delusional beliefs, paranoia, or command hallucinations may precipitate engagement in critical incidents (Alexander & Klein, 2010;

Coid, 2002; Daniels et al., 2016; Fuselier, 1988). Despite this, it is too premature to understand the nature and extent of the relationship between mental illness and critical incident engagement, thus the influence of psychopathology on critical incident engagement remains poorly understood. Nevertheless, the findings do lend support to the conclusion of Daniels et al. (2016), which posits that as an overarching construct, mental illness is an insufficient predictor of critical incident engagement.

Unhelpful beliefs were also found to be a predisposing factor for critical incident engagement, and this was found to be associated with mental illness, a diagnosed personality disorder, and a lack of remorse/empathy. Unhelpful beliefs were also found to be associated with coping related factors, which can also be understood through the lens of General Strain Theory (Agnew, 1992). For example, it is noted that ‘criminal coping’ is also more likely amongst individuals who have amoral beliefs (Agnew & Brezina, 2019). Moreover, unhelpful beliefs may be associated with the experience of subjective strain, particularly where this is prolonged. Indeed, the perseverative cognition hypothesis (Nolen-Hoeksema, 2000) suggests that exposure to prolonged stress and negative affect can lead to pervasive patterns of negative thinking and rumination, which in turn can lead to negative self-schemas. To date, there has been very little focus on the potential association between unhelpful beliefs and critical incident engagement, thus this finding may pave the way for further research in this area.

Prior experience of a critical incident was also noted to be an organism variable. 69.2% of individuals stated that they have engaged in more than one critical incident, thus supporting the notion that individuals who engage in critical incidents are often ‘repeat offenders’ (Yeager & Roberts, 2015). Despite this, there was little information pertaining to the nature and extent of past critical incident engagement, thus this warrants further exploration. Nevertheless, this provides justification for further exploring what defines such individuals from others, and

whether this extends beyond a preferred method of coping with strain. A history of substance misuse was also noted by 46.15% of the sample, and which was characterised by non-recreational and excessive polysubstance use, often starting at a young age and continuing into adulthood. This theme also linked to other themes, such as impaired coping ability and paranoia/delusions, suggesting that substance misuse may exacerbate existing difficulties and contribute to mental health symptomatology. Moreover, it is also possible that substance misuse represents an alternative means of coping with subjective strain, and the pharmacological impacts may impair judgement and coping ability, thus increasing the risk of critical incident engagement (Giancola, 2013). As such, the relationship between critical incident engagement and polysubstance misuse is likely bi-directional, yet this remains unclear at the current time.

Five main themes pertaining to the antecedents of critical incidents also emerged from the analysis. These included, environmental factors, experience of difficult emotion, feeling challenged or disempowered, significant events, and use of substances and/or intoxication. In support of the findings by Brown and Ireland (2006), study one found that a salient antecedent was where the environment inhibited the utilisation of a preferred coping method. Environmental factors (theme 1) were also noted to have a more direct impact, and these were reported by the majority of individuals in this study. Subthemes included environmental stress, a lack of environmental stimulation, increased opportunity, and a change in environment. Environmental stress, such as overstimulation and overcrowding, contributed to a sense of danger and the desire to escape. A lack of environmental stimulation, including boredom and lack of routine, also resulted in individuals seeking excitement through engagement in critical incidents.

Changes in the environment, such as rule changes or unwanted transfers, also triggered incidents, as individuals sought control or a different environment. This theme can also be viewed through the lens of General Strain Theory (Agnew, 1992), as strain may result from deprivation of positive stimulation, or the experience of negative stimulation owing to the environment (Morris et al., 2012). These findings support the environmental factors established in the current literature, including opportunity/access to victims and insufficient staff to prevent action (e.g., Hughes et al., 2018; Ireland et al., 2014). Factors related to environmental changes, such as an inability to access resources and a lack of structure were also highlighted in this study. It is argued that environmental factors where choice and autonomy is inhibited can be viewed through the lens of self-determination theory (Deci & Ryan, 1985). Indeed, previous research (i.e., Ireland, et al., 2014) found that the likelihood of critical incidents is higher when sense of control and autonomy is lost or reduced.

The experience of difficult emotion was noted to precede critical incident engagement in the majority of incidents included in study one, and subthemes included difficult emotion associated with mental health symptoms, difficult emotion following disagreements, and difficult emotion due to a perceived lack of belonging. It is argued that the relationship between negative emotion and critical incident engagement can be explained by General Strain Theory (Agnew, 1992), which posits that negative emotional states mediate the relationship between strain and engagement in maladaptive behaviour (Agnew & Brezina, 2019). It is further suggested that negative emotion may also mediate the relationship between other factors and critical incident engagement, such as mental health symptomatology, yet this remains unclear at the current time. The experience of difficult emotion was also noted to be associated with socioenvironmental factors, particularly where this related to a perceived lack of community belonging, feelings of isolation, or challenges within the sociocultural context. In this context, and as posited by Differential Opportunity Theory (Cloward & Ohlin, 1960), critical incident

engagement may result from a lack of access to legitimate opportunities and other forms of social mobility.

Differential access to opportunities or perceived rights was also found to result in critical incident engagement due to individuals feeling challenged or disempowered. Subthemes included loss of rights or privileges, a perception of not being listened to, and a perceived need to protect reputation. Loss of rights and privileges, coupled with a lack of staff responsiveness, led to frustration and the desire to take action. This appears to relate to the concept of ‘unjust strains’, captured by General Strain Theory (Agnew, 1992), where social norms and/or values are perceived to have been violated, and/or undeserved or disproportionately negative treatment is provided without clear rationale (Agnew & Brezina, 2019). Strains may also be perceived as unjust when the individual does not feel heard or perceives that they do not have a voice, and maladaptive behaviour is therefore more likely to be considered a legitimate response (Agnew & Brezina, 2019).

Other antecedents identified in study one included situation specific factors, such as significant events, and which also related to the experience of subjective strain and experience of difficult emotion. This related to significant dates and anniversaries, and disputes with others within the social environment. General Strain Theory (Agnew, 1992) posits that weakened social bonds can result in decreased social control, which in turn can increase the risk of maladaptive behaviour owing to the perception of having nothing to lose (Agnew & Brezina, 2019). The final antecedent identified in study one, and which was also associated with significant events, experience of difficult emotion, and increased likelihood of disputes, was substance use/intoxication. This was reported to primarily relate to the pharmacological impacts of intoxication, e.g., increased disinhibition and impaired judgment, with this resulting in individuals perceiving limited options to cope with subjective strain. These findings support

arguments presented in chapter three of this thesis, where substance use is considered to have indirect influence on critical incident engagement, such as where this mediates the relationship with emotion regulation, coping style, and SPS ability. As such, substance use may be best conceptualised as having a perpetuating or contributory impact, and addiction or pervasive use may serve as a predisposing factor.

In regard to the functions (motivations) of critical incidents, six main themes were identified in study one. These included the pursuit of specific goals, coping with difficult emotions or symptoms, seeking to be heard and acknowledged, seeking positive experiences or emotions, seeking a sense of belonging or affinity with others, and establishing a sense of power or control. The motivations identified in study one mirror those highlighted by Ireland et al., (2014), and also further build upon these to add to understanding. Due to the dynamic nature of critical incidents and the fluctuating presentation of those in crisis or conflict, secondary or indeed multiple functions were reported to emerge throughout the incident. Therefore, the findings of study one supported existing findings (e.g., Ireland et al., 2014) that motivations are often complex, interrelated, and interdependent.

Engagement in critical incidents as a means of achieving goals and establishing a sense of power replicates the findings of existing research (e.g., Hatcher et al., 1998; Hughes et al., 2018; Ireland et al., 2014) and suggests that Cognitive Evaluation Theory (Deci, 1975) may be applicable. Individuals who engage in critical incidents may be intrinsically and extrinsically motivated to meet their needs, as it is rewarding, self-satisfying and fulfilling. This finding is also consistent with General Strain Theory (Agnew, 1992), which suggests that misconduct may result if an individual is unable to legitimately achieve a desired goal (Agnew, 1992; Morris et al., 2012, Agnew & Brezina, 2019). As such, critical incident engagement may also be viewed through the lens of the Good Lives Model (Ward, 2002; Ward & Brown, 2004; Ward

& Stewart, 2003), thus representing a maladaptive means of meeting primary needs (Ireland et al., 2014, 2015).

As previously discussed, the experience of negative emotion or symptoms was found to predispose engagement in critical incidents, thus it is perhaps no surprise that individuals were motivated to engage in critical incidents in an attempt to manage this. This function was also identified in existing research (e.g., Hughes et al., 2018; Ireland et al., 2014). This can also be explained by General Strain Theory (Agnew, 1992), where strain can relate to the removal of something that is positively valued, or the gaining of something that is negatively valued. In this context, critical incident engagement may be viewed as a method of removing/easing the strain (negative emotion or symptoms) and/or obtaining a replacement. The removal of strain also linked to the subtheme of seeking positive experiences or emotions, yet it is notable that this was also reported to occur independent of strain. Nevertheless, it is possible that the strain was not recognised as such, for example, in the context of seeking excitement, which may not have been recognised to be due to experience of boredom. Secure settings are likely to result in a reduction in opportunities for individuals to achieve positive experience or emotion. Thus, it is possible that critical incidents allow individuals to achieve positive stimulation (e.g., arousal or excitement) in an environment that can be considered inhibitive and restrictive.

Critical incident engagement was also found to be motivated by a desire to be heard and acknowledged. This finding was consistent with the available literature (e.g., Hughes et al., 2018; Ireland et al., 2014; Mason, 2000). It is argued that the desire to be heard may relate to a drive for competence or connectedness, as captured by self-determination theory (Deci & Ryan, 1985), moreover this also related to the meeting of primary needs such as sense of purpose and meaning, as captured by the Good Lives Model (Ward, 2002; Ward & Brown, 2004; Ward & Stewart, 2003). Also connected to this was the identified function of seeking a

sense of belonging or affinity with others, which is also considered a primary need as captured by the Good Lives Model (Ward, 2002; Ward & Brown, 2004; Ward & Stewart, 2003). Whilst peer influence did not appear a dominant feature in study one, despite this being recognised in existing literature (e.g., Ireland et al., 2014), critical incident engagement to afford an enhanced sense of connection, affinity, and relatedness with others did. This may also link with Self-determination theory (Deci & Ryan, 1985) via the construct of relatedness; thus, peer influence in this context may be best conceptualised as a desire for connection and belongingness with others.

5.5 Limitations

Study one included a forensic psychiatric sample, which not only poses challenges regarding generalisability of results, but there is also a potential that some of the identified themes were inflated or increased in this population. The sample was also relatively small ($N=13$), and this is of course a smaller population to access. Nevertheless, sufficient data was yielded for rich qualitative analysis, and the sample was more than three times larger than other research conducted in a similar high secure setting (i.e., Völlm et al., 2013; $N = 4$). Due to the limited data available and anonymisation, demographic information was omitted, thus there was a reliance on self-report, which may have also impacted the reported prevalence of key themes, such as mental illness. It is possible that due to factors such as limited insight and/or impression management, key information was not shared with the researcher who initially collected the data. As there was no access to medical records, triangulation was not possible, nor was there an opportunity to verify self-reported information or ascertain baseline functioning.

The methodological approach also presented some further limitations. Whilst research in this area can only be conducted retrospectively, this raises considerations regarding memory accuracy, not least due to the emotionally charged nature of events. Furthermore, as no

timeframe was captured in the available data, it was not possible to determine the length of time preceding the critical incident, thus it is likely that the quality of the data was impacted by varying levels of memory decay due to the duration of time passed. The functional assessment aspect of study one may have resulted in participants attempting to explain or justify their behaviour, and this may not have been aligned with the true function(s) and subject to bias. Indeed, perpetrators cannot be expected to have awareness of all relevant and contextual factors, or to recall emotional or physiological states retrospectively. Moreover, the structured SORC approach likely included researcher prompts and anchoring to specific areas of focus. This may have resulted in selective recollection, which could be both intentional and unintentional. As such, additional (negotiator) perspectives regarding functions are captured in study two.

Thematic analysis is a complex task, not least due to the significant amount of data, and whilst inter-rater reliability was completed with an experienced clinician on the full data set, there may still have been a potential for research bias when coding themes. Moreover, there was further potential for bias when completing the functional assessments, such as functional equivalence, whereby different behaviours serve the same function, or the same behaviours serve different functions in different contexts. Functional assessment also poses challenges in respect of assessing for internal factors, as this relies on sufficient knowledge and insight. Nonetheless, as the act of critical incident engagement largely pertains to subjective perception of strain related events, it is argued that subjective appraisal is of equal relevance to information accuracy.

Whilst it is acknowledged that the findings have limited predictive power, they do, nevertheless, address key gaps in the evidence base, such as a lack of representation from those engaging in critical incidents, and greater focus on the factors underpinning engagement rather

than descriptive features. Yet, whilst understanding of motivations is fundamental to behavioural modification, there is a continued risk of inferring motivation based on subjective judgement or cursory appraisal, hence justifying the need to explore additional perspectives. Study one also did not account for protective or promotive factors, thus this requires addressing, particularly as this is considered key to informing preventative approaches.

5.6 Concluding comments

Despite the aforementioned limitations, study one provides useful data on the organism variables, antecedents, and functions of critical incidents perpetrated by those in a forensic psychiatric sample, which goes some way towards addressing gaps within the literature. This enabled consideration of a range of pertinent factors, thus it is possible to conclude that critical incident engagement is underpinned by a complex interplay of both internal and external factors, and which are of subjective relevance to the individual. This study has offered support for existing findings, further building upon these to explore key nuances and via the integration of salient psychological literature, such as General Strain Theory (Agnew, 1992). This has been pivotal in informing methodological approaches for later studies in this thesis, such as the development of a semi-structured interview. All aims of study one were met, and all predictions were found to be accurate. Nevertheless, there is a continued need to further explore the motivations and other salient factors of critical incident engagement, and from a range of additional perspectives. Moreover, there is a clear need to explore protective and promotive factors which may serve to mitigate engagement, and which forms a key aim of study two.

CHAPTER 6. STUDY TWO

Negotiator Perspectives of Critical Incidents: An Exploration of Perceived Functions and Protective Factors

6.1 Overview

6.1.1 Aims of study

Study two aimed to explore (1) what *functions* (motivations) negotiation staff consider influential to the perpetration of a critical incident, (2) what *protective mechanisms* negotiation staff consider relevant to inhibiting involvement in critical incidents, and (3) what *socioenvironmental factors* staff perceive to be related to the functions and protective factors surrounding critical incidents.

6.1.2 Outline of study

Study two built upon the findings of study one, not only by further exploring the motivations of critical incidents, but also by exploring perceptions from an additional (negotiator) perspective. It also captured protective/promotive factors, thus highlighting factors that may mitigate critical incident engagement. A semi structured interview was developed based on the literature outlined in the previous chapters [Appendix 2], and this formed the basis of interviews conducted with trained negotiators working in prison, police, and secure forensic settings. Interviews were recorded and audio data was transcribed, and thematic analysis was employed to identify themes/patterns within the data.

6.1.3 Preliminary assumptions

As was the case with study one, a deductive approach was taken, and preliminary assumptions, as based on presented literature and the findings of study one, are outlined below.

Assumption 1: Additional motivating factors may emerge, as based on professional insight, such as engagement in critical incidents as a means of problem-solving (e.g., Hughes et al., 2018).

Assumption 2: Interactive protective factors at a multi-systems level (i.e., individual, family, and social environmental level) would be identified as relevant to critical incident engagement.

Assumption 3: Negotiators would identify a range of sociocultural environmental factors as relevant to critical incident engagement.

6.2 Method

6.2.1 Participants

The sample comprised of 20 professionals (police, psychiatric nurses working within NHS forensic services and prison security staff) that had *active* experience of critical incident negotiation within the field of hostage taking, barricade and protest incidents. 21 participants volunteered to take part in the interviews however one participant withdrew (after initially providing consent) due to work related demands. The final sample included three females and 17 males. Information pertaining to gender is provided solely for descriptive purposes; the exploration of gender differences in negotiator perspectives is not central to the research aims of this study. 10 participants were recruited from police settings (Devon and Cornwall Police, $n = 3$ and Merseyside Police, $n = 7$), two participants were recruited from a prison setting (HMP Forest Bank) and eight participants were recruited from a high secure forensic psychiatric hospital (Mersey Care NHS Trust).

6.2.2 Procedure

Following ethical approval from the University of Central Lancashire, the Chief Constable of Devon and Cornwall Police and Merseyside Police were contacted in relation to this research project. After reading the research proposal and information sheet both constabularies provided

written approval for their negotiation cadre to participate, should they wish to do so. The same process was completed with the Director at HMP Forest Bank, and also with the Negotiation Lead at Mersey Care NHS. Written approval was provided by all participating organisations. Following this, the information sheet was circulated to negotiation staff by their manager, and individuals were advised to voluntarily contact the lead researcher if they wished to participate. The lead researcher then contacted each potential participant that volunteered and discussed the aims and nature of the study, answering any questions that they had. Participants were then informed that they could take up to a week to decide whether or not to participate in the research. If they decided to take part, they were asked to contact the lead researcher providing telephone and either postal or email contact details, along with written consent.

Upon receiving written consent, the lead researcher contacted each participant to arrange a mutually agreed convenient time to complete the telephone interview. Each interview was audio recorded and ranged between 43 minutes and 92 minutes in duration. A semi-structured interview schedule was developed to explore each participant's experiences and the issues that they considered relevant to critical incidents. Participants were asked each question and given an opportunity to respond. The researcher was led by the participant in terms of determining the direction of the discussions but kept to certain themes that are prevalent within the literature, and which were identified in study 1.

The first part of the interview explored the participant's *general* views relating to the motivating factors of critical incidents and factors that they believed may prevent individuals from perpetrating such incidents (protective factors). The final part of the interview asked the participant to consider and discuss a critical incident that they had been actively involved in as a negotiator, that was most memorable for them. The participants were asked not to provide any identifiable information about the event (i.e., location or who was involved) and to focus more specifically on the details surrounding the critical incident. For example, the factors that

led up to the incident, what happened before, during and after the incident and why they think the incident occurred. The audio data was then transcribed.

Thematic analysis was used to determine, analyse, and report themes (patterns) within the data (Braun & Clarke, 2006). Various validation and reliability strategies were utilised to ensure accuracy and consistency in the analysis. The data was initially thoroughly coded, and where complex or ambiguous data presented, a discussion was held with a qualified clinician to determine the coding outcome. Inter-rater reliability was completed with the whole data set. Deviant cases or divergent information within the data were noted and analysed. The analysis and reliability testing of the whole data set, including divergent cases, assisted the avoidance of anecdotalism. Extracts of the data were used to support each of the themes. In addition, the data from each single participant was reviewed narratively to ensure that the interpretation of the themes was relevant and that the interrelation of themes within a particular case was not disregarded.

6.2.3 Ethical considerations

Owing to the potentially sensitive nature of the research topic for some individuals, where participants were asked to discuss their perceptions of what may have been emotionally charged events, consideration was awarded to safeguarding and support provision. Accessible information pertaining to the nature, methods, and aims of the research was shared by a link person within each management team with trained negotiators who had active experience of critical incident negotiation. Following dissemination of the research information, those wishing to participate were asked to contact the researchers on a voluntary 'opt in' basis. Participants were advised that they could terminate participation at any point if they experienced distress or discomfort, and that an explanation for withdrawal was not required. Contact details for support agencies were included on both the information and debrief sheets [Appendix 2], and this included details on accessing internal support from supervisory teams,

and details of external support agencies. Contact details for the research team were also included, members of whom were clinically trained. Identifiable details pertaining to the critical incident or perpetrators was omitted, (a) to ensure anonymity and (b) to demonstrate respect to those who may have been adversely impacted by events.

6.2.4 Measures

A semi-structured interview schedule was developed [Appendix 2] which included several pre-determined questions that were derived from existing literature and the findings of study one. Semi-structured interviews enabled exploration of areas of interest without restricting the responses of the participants.

6.3 Results

This results section presents the synthesis of findings from the thematic analysis pertaining to negotiator perspectives, that is, themes relating to *functions* (motivations) of critical incident engagement and *protective factors*.

6.3.1 Summary of themes – Negotiator perspectives of functions.

Four main themes related to individual background factors were identified: (1) to achieve goals/get needs met, (2) to seek deliberate isolation from others, (3) to gain control, and (4) to fulfil a need to communicate or be listened to. A thematic diagram is presented in Figure 6.1 to illustrate each identified theme and subtheme pertaining to functions, with the narrative of each following thereafter.

Key

Theme ○

Sub-theme □

Link to sub-theme —

Relationship between themes - - -

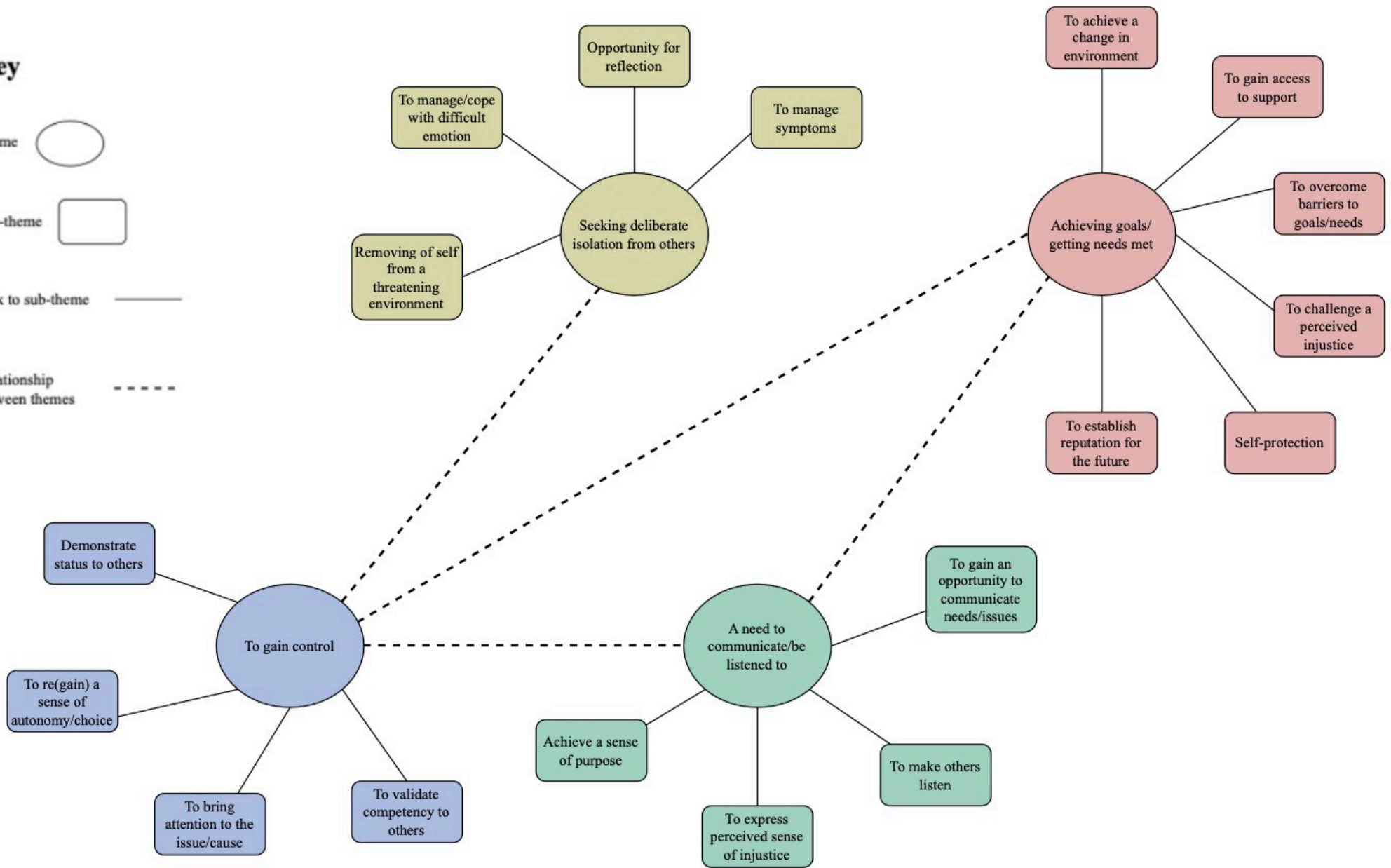


Figure 6.1: Thematic diagram illustrating each theme relating to negotiator perspectives of functions (motivating factors), and respective subthemes.

6.3.2 Thematic synthesis

Functions (motivations) of critical incidents:

Theme 1 – Achieving goals/ getting needs met

The perspective of negotiation staff was that individuals are often motivated to engage in critical incidents in order to achieve their goals and/or get their needs met. This also appeared to link to achieving a change of environment (Subtheme 1). Participants reported that clients *“know they have done something wrong, and they need moving off a wing”* (P1, L97-98). This was also found to be the case in mental health settings with negotiators reporting beliefs that *“the confrontation was based around that he didn’t want to be on our ward”* (P18, L601). Negotiation staff also reported links to achieving a wider change in environment such as *“He just wanted to go back to prison”* (P14, L529) and *“He wanted to be back in the unit he came from so he would be nearer his family”* (P18, L683).

Engaging in critical incidents was also perceived as achieving the goal of re-establishing and maintaining reputation and/or status (Subtheme 2). This subtheme was highly prevalent within both community and secure settings with negotiators stating *“He wanted notoriety. He wanted to sustain it as long as he wanted”* (P2, L554) and *“he had a reputation to live up to”* (P14, L655). Staff suggested that such incidents have been perpetrated as *“they might think that staff will treat them with more respect”* (P6, L911-912) and *“they get a bit of notoriety out of it, they love the attention”* (P10, L926-927). Staff linked the goal of establishing reputation to desperation, *“The guy had nothing left in the world and the only way to regain it in his mind was to recover his reputation”* (P7, L1173-1174) and to meeting future goals *“he would do that so that when he went to prison, he would have that credibility. It is almost a future defense mechanism because he would say that I did this to the police after that incident, and it almost kind of puts him in a rank structure ready for prison”* (P2, L517-520).

Negotiation professionals also specifically linked re-establishing and maintaining reputation and/or status to socioenvironmental factors, for example *“to show that they can breach the wards perimeter security, make a fool of the staff and show it was easy, and if we want to do it, we can do it”* (P1, L532-533). The presence of an audience was also reported to be a key socioenvironmental factor, for example, *“He was playing for the gallery and there was a lot of bravado going on”* (P18, L554-555) and *“was this somebody just trying to make a name for themselves because people were on site at the time?”* (P5, L133-134). The presence of an audience was also reported to play a role in community settings, e.g., *“sometimes people are acting out to try and look the hard man in front of neighbours and stuff like that”* (P4, L586-587).

A further perspective of negotiation staff was that individuals are often motivated to engage in critical incidents in order to challenge a perceived injustice (Subtheme 3). This was evident across all settings and included factors such as *“where the patient is probably refusing or not happy with some aspect of their care, and obviously they are disputing it”* (P5, L57-58) and *“frustration either at the process or because things are not done in a timely, or what they perceive as and when they want it doing”* (P5, L67-68). Negotiation staff reported that a perceived injustice can influence critical incidents when *“they will say they haven’t had it explained to them”* (P11, L 185-186) or they are *“being blamed form something they have not done”* (P1, L180). In community settings a perceived injustice was noted to often result from custody or family disputes, for example *“if I can’t have the kids, neither can you, and that sort of thing”* (P7, 132-133). Specific factors relating to the social environment were also noted by negotiation staff, for example *“There were a lot of challenging behaviours around protests and not leaving your bedrooms because we wanted to lock the rooms off for activities”* (P14, L63-65), *“He wanted his phone calls to be private”* (P18, L589-590) and *“perks and privileges had been withdrawn from them owing to an environmental change”* (P20, L122-123).

Negotiation staff also reported a function of critical incidents as achieving self-protection (Subtheme 4), this was reported to be from a physical perspective, i.e. *“he was puffing his chest up if you like and trying to be as scary as possible to stop us going near him, I think he was genuinely scared and this was his way of protecting himself”* (P6, L611-613) and also from an emotional or psychological perspective *“where they have barricaded themselves in for the sake of some kind of feeling of safety”* (P16, L671). Socioenvironmental factors were noted as significant to the function of self-protection by negotiation staff, for example *“I suppose for some people inside a locked room where there is you and you have got control over that environment, it is to some extent quite secure, it’s quite safe, and to come out into an area where there are lots of people with mental health issues and all of a sudden you are exposed to a lot more danger and a lot more risk factors. It’s quite daunting really”* (P16, L673-677). Staff also stated that individuals can be motivated to perpetrate a critical incident in order to gain access to support or services (Subtheme 5), e.g., *“you go to prison now for drugs and rehab”* (P9, L991) and *“they are desperate to get sectioned and they know that this is a way of getting sectioned”* (P4, L220-221). Staff perspectives indicated that this function can be related to socioenvironmental stressors such as inability to readily contact significant others. For example, *“They’ve not been able to speak to a partner and it’s only the partner who is like the protective factor and gets him through, and he doesn’t see anyone else who he can talk to”* (P11, L130-131).

Finally, negotiation staff reported that individuals are often motivated to engage in critical incidents in order to achieve a predetermined solution (Subtheme 6). This can be *“when they don’t get what they want for instance”* (P1, L92), to *“seek retribution”* (P6, L144) or simply to cause disturbance, *“they blank everything else out and they focus on their intent to create a problem or an issue without any thought for the detriment of others or safety of others”* (P13, L166-168). In secure settings negotiation staff suggested that critical incidents may be

motivated by socioenvironmental stressors, such as boredom as *“there’s nowt else better to do”* (P11, L257), or by the goal of breaking *“the monotony of institutional life”* (P13, L700). In the community, predetermined goals were reported to relate to family disputes, e.g. *“he wants his wife and children to come down so he can speak to them”* (P19, L973-974), the goal of achieving money, e.g. *“the likes of pirates”* (P15, L85), or recovery of debts, e.g. *“they will keep hold of them until someone settles the debt”* (P15, L81).

Theme 2 – Seeking deliberate isolation from others

Negotiators indicated that seeking deliberate isolation from others was believed to be a motivating factor for critical incidents. For example, *“They know where it’s going to end up and they know it’s going to end up in a seclusion room, but they’ve then got their little part of the world that nobody else comes into, and I think they can often feel safer and under less pressure in such circumstances”* (P6, L181-183). This was reported to be a result of actual threat, for example, *“He was on wing, and he probably didn’t know a lot of people, so he could have a few people on the wing that want to get to him”* (P1, L478-479).

The opportunity for reflection (Subtheme 1) afforded by critical incidents was noted to be a motivating factor. In both secure and community settings staff reported that this was likely to relate to ‘what to do next’. For example, *“They were just trying to think about what they could do to get out of this situation and as I said as time went on they realised that there was no way out for them”* (P12, L774-776) and *“most of the time it will be domestic related, i.e. a crisis within a relationship or a breakdown of a relationship where an individual thinks that it is the end of the road for them, so they just want to go away and either end it all or think about what to do next”* (P12, L138-141). Staff also linked this theme to socioenvironmental stressors, such as over stimulation, i.e., *“at one point he said I just need to have some time out, and we left him to have a couple of minutes to think about things”* (P11, L641-642) and *“I think he was a*

bit overwhelmed and he was looking around him and he was just having a think” (P11, L644-645).

Critical incident engagement was also reported to be a result of a desire to remove oneself from a threatening environment (Subtheme 2). Socioenvironmental factors were also considered relevant to this theme, for example *“because the ward was high dependency there were a lot of people in the environment that were very disturbed at the time. I guess one thing to take into consideration as a factor, is that occasionally being in a community environment where there is a lot of disturbed people can actually be a dangerous situation” (P16, L801-805).* The salience of *perceived* threat was also identified, for example, *“He wasn’t so much afraid of the police I don’t think, he was afraid of something in his head. He was afraid of a situation that wasn’t really there” (P15, L553-555).*

The perspective of negotiation staff was that individuals are often motivated to engage in critical incidents in order to manage or cope with difficult emotion(s) (Subtheme 3). For example, *“it could be a cry for help. It could be presenting themselves with anger, or in desperation” (P20, L99-100).* Staff members also reported the belief that where coping or emotion management is impaired or limited then *“sometimes the patient will have no control over their actions and it will just be a reaction that is emotionally fuelled” (P14, L182-184).* Negotiation staff also emphasised the role of the environment in relation to this theme, indicating that critical incidents are often a result of procedural factors, such as *“disappointing results from CPA reports, tribunal reports are key issues. Treatment regimes and programmes; they might be struggling with it, they’ve internalised it, they’ve not expressed or talked about it, so all these things can be pressure points” (P13, L143-145).* Negotiation staff also reported that critical incidents have manifested due to difficult emotion related to socioenvironmental constraints of secure settings such as separation with family members. For example, *“I don’t trust her because I’m in here and she’s out there” (P11, L 510-511)* and *“He was worried*

about his mum and who she gets involved with” (P11, L 512-513).

Finally, staff reported that critical incident engagement can also serve the motivation of managing symptoms (Subtheme 4), for example those that are mental health related, e.g., *“he just needed a bit of time to get his head straight. The paranoia was high, the voices were getting louder, and the anxiety was an all-time high” (P14, L281-283)* and those that are physical health related, e.g., *“the guy was in complete agony, his injuries caused him crippling pain, and nobody would listen or treat him. I believe the adrenaline helped with the pain and took his mind of it for a moment in time” (P12, L228-230).*

Theme 3 - To gain control.

Negotiation staff described the belief that some individuals can engage in critical incidents to gain control, for example *“The vast majority for me is that they need to feel in charge” (P2, L333)* and *“I think the ringleader of the group wanted to show off that they had some level of control” (P19, L903-904).* This was also noted to relate to the demonstration of status to others (Subtheme 1). Staff also reported this to be further influenced by a loss of control, thus the critical incident can serve the function of enabling the individual to regain a sense of autonomy and/or choice (Subtheme 2). For example, *“it’s people not communicating properly and not feeling that they’ve got any control over where they’re going, so they try and sort of retake that control by forcing issues where they cause people to engage with them” (P6, L131-134).* Engagement in critical incidents in order to bring attention to an issue or cause (Subtheme 3) was also noted to be a motivating factor. Environmental factors were again linked to the theme of gaining control, particularly where behaviours were inhibited by the setting, e.g., *“He initially said it was because they can’t smoke and it was another infringement of their rights, that the hospital had gone worse than the prisons that they’d been in, that the rules are really tight and you can’t do this and you can’t do that” (P13, L482-484).* Critical incidents were also

noted to be motivated by the gaining of control by validating competency to others (Subtheme 4), i.e. *“I think he felt obliged to show staff that he could look after himself”* (P6, L736).

Theme 4 - A need to communicate or be listened to

An individual engaging in a critical incident owing to their need to communicate or to be listened to was also considered to be a motivating factor by negotiators. It was reported that individuals may perpetrate such incidents in order to make others listen (Subtheme 1). Examples of this were, *“he felt like this is the only way he could get his needs or his feelings across before we would listen”* (P17, L493-494), *“frustration and not getting heard really, their voice is not heard. The declaration of nobody listens to me, I’m not happy”* (P18, L166-167) and *“The advantages for them is that somebody will listen to them, they will get an opportunity to think through their situation from a different perspective* (P7, L1308-1310). Staff reported that critical incidents present an opportunity for the individual to communicate needs and issues (Subtheme 2), for example, *“we were there for that amount of time dealing with just him and listening to his issues, acknowledging and validating what he was feeling”* (P17, L705-706). This was also noted to relate to achieving a sense of purpose (Subtheme 3), for example, *“he needed to feel heard so that he knew he mattered to someone in this world. He needed a reminder that he has a purpose, not necessarily a sense of importance, but more of a sense of existence”* (P18, L186-189).

Staff also noted that individuals can engage in a critical incident in order to express a perceived sense of injustice (Subtheme 4), for example, where they do not perceive that they are receiving adequate care and treatment. Environmental factors were also linked to this subtheme, more specifically these included individuals perceiving that staff members were pre-occupied with other activities, for example, *“It was busy day, we had lots of visitors and people were running around”* (P16, L573-574). Other factors associated to the environment were knowledge of

organisational procedures. For example, “*naturally the way our policies are, you are reviewed. So, he was secluded, he is seen by a doctor, he’s had his rant, didn’t get what he wanted so that’s up scaled. So, then he gets to see the ward manager, the charge nurse will come and speak to him, a doctor will come and see him and again he gets those platforms of what he wants to say and who he wants to say it to*” (P14, L756-760). Delays due to the running of the ward were also recognised by staff to be an environmental constraint with negotiators stating that “*the patient may feel that the urgency hasn’t been recognised, so may ask again, or may feel like I’ve asked, and I haven’t been seen, so I need to do something, I need to act out and make this a more serious situation. The patients know that if you’re in seclusion you will be seen with the hour, and so will often engineer a situation to be heard*” (P14, L178-182).

Summary of themes – Negotiator perspectives of protective factors

When exploring the themes for the protective factors related to critical incidents, a range of themes were identified. The themes identified included: (1) inhibitory thoughts, (2) the presence of a valued social support network, (3) pro social problem solving and coping skills and (4) self-belief and self-efficacy. Each of these themes are discussed in turn. A thematic diagram is presented in Figure 6.2 to illustrate each identified theme and subtheme pertaining to protective factors, with the narrative of each following thereafter.

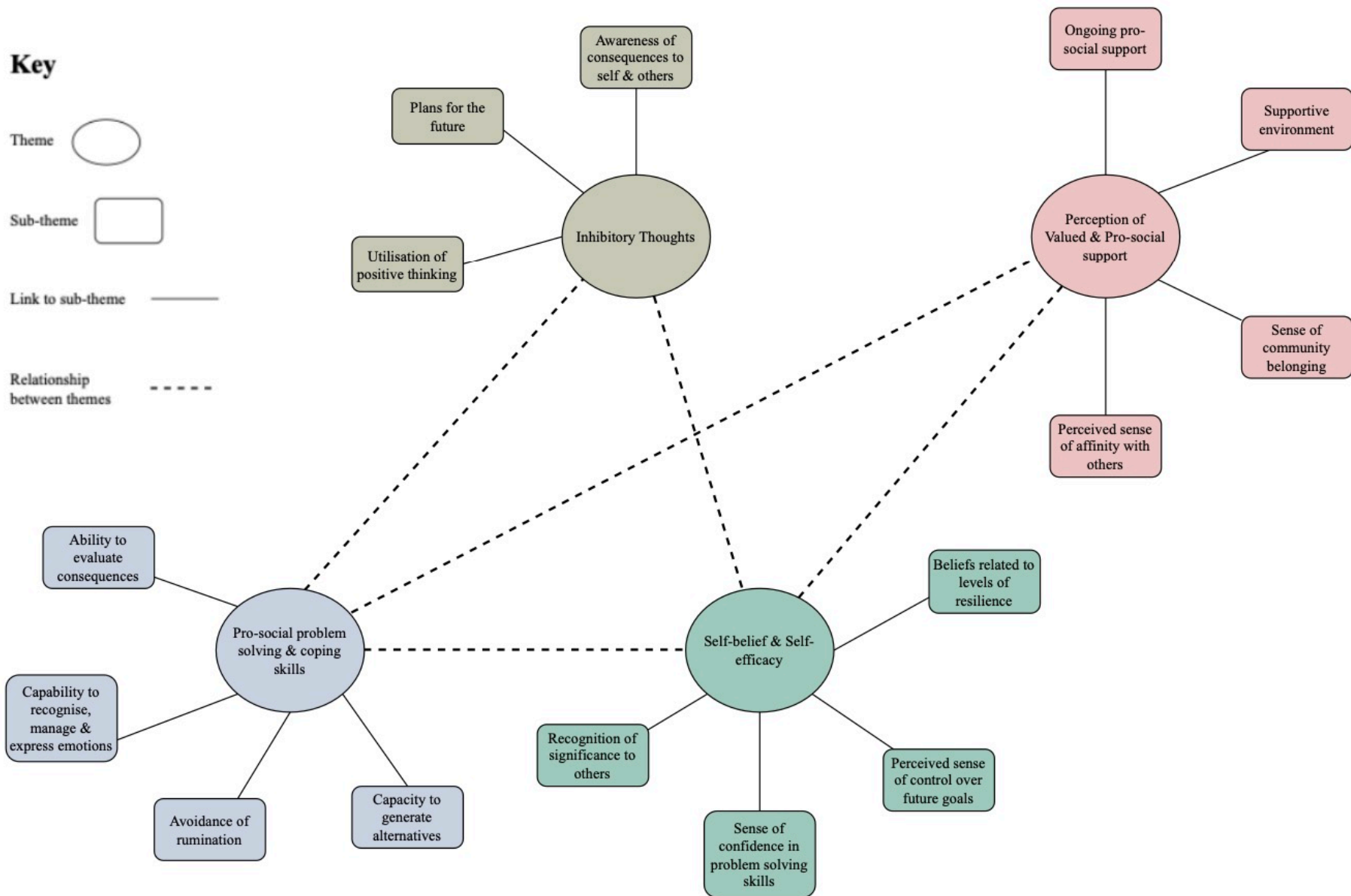


Figure 6.2: Thematic diagram illustrating each theme relating to negotiator perspectives of protective factors, and respective subthemes.

6.3.3. Thematic synthesis

Protective Factors related to critical incident engagement.

Theme 1 - Inhibitory thoughts

The perspective of negotiation staff was that inhibitory thoughts present as a protective factor for critical incidents. Staff in both the community and secure settings emphasised the importance of individuals having plans for the future (Subtheme 1). For example, *“people who plan for the future are generally happier, healthier, they are planning and everything else”* (P9, L531-532). In both community and secure settings staff described how focusing and emphasising on future plans can assist the negotiation process e.g., *“this is a day in your life, and this isn’t part of your bigger picture, this doesn’t fit your jigsaw almost. Whatever you achieve today isn’t going to contribute to your future plan. It’s long-term goals rather than short term goals”* (P14, L443-445). Staff reported that this protective factor can also be influenced by environmental or situational factors such as *“If they’ve been on a recall, they are thinking about the Parole Board, they don’t want to do anything and so they will probably talk about it or deal with it in a different way, because obviously it will affect their release plans and perhaps a change of category, because we do referrals from Cat D to Cat C, so they maybe just see how it will affect their sentence plan”* (P11, L352-356). Factors pertaining to future plans relating to a change in environment were also noted to serve as protective factors. For example, *“if they’re on the verge of moving on to better things they might not want to endanger that”* (P6, L364-365) and *“If they’re on the verge of getting out, they are less likely to engage in critical incidents”* (P6155-156).

Negotiators also reported the protective mechanism of inhibitory thoughts related to awareness of consequences to self and others (Subtheme 2). It was noted that this could be awareness of the impact to themselves, e.g., *“These sorts of behaviours stay on your record, the big scale*

incidents, protests, roof tops, they are enduring really, they don't go away. It could have been 15-20 years ago, but you've done it. The normal cost is that it takes to repair these things is that people are wary of them. So, I think a big thing is that the patients realise the detrimental effect it will have on their long-term care. That's only I suppose the groups that have got the switch to hold themselves back" (P14, L346-352). Staff also noted that protective factors also relate to the awareness of consequences to others. For example, *"I have found those that have family support and rely on it, or I don't want to let my family down, or my mother wouldn't be happy with this, and that seems to stop them from engaging in more extreme behaviour, that they feel they are letting their loved ones down. That applies to staff as well. I find that those patients with very good relationships with staff tend not to want to let staff down or to appear to have failed in some way, so would tend to steer away from critical incidents and rather seek support or report distress before its critical"* (P17, L312-318).

Staff also noted the utilisation of positive thinking (Subtheme 3) to be an important protective factor related to critical incident engagement. For example, *"for me it comes back to people being able to reach for alternatives to negative thinking and reach for hopeful thought and thinking I can turn this around, I can deal with this in other ways, I am skilled, I can talk to people, I can ask for help, I can negotiate"* (P6, L412-415).

Theme 2 – Perception of valued and pro-social support

Negotiation staff reported that the presence of a valued pro-social support network can be a protective factor for critical incidents. For example, *"a lot of it comes down to the individual and the support they have around them, whether that be by family, friends, medical or voluntary sector I suppose, through Samaritans and other great work that's done by some charities. I think those that won't engage are more likely to have a good network or people who can give them that support at the time of need"* (P8, L429-433). The importance of ongoing pro-social

support (Subtheme 1) was also highlighted. For example, *“the support has to be good support, not from a mate who’s a drug dealer, and it has to be consistent and readily available. There needs to be someone that person can depend on, on an ongoing basis (P6, L459-462).* Staff also noted that a sense of community belonging (Subtheme 2) can also serve as a protective factor for critical incident engagement *“it’s a capacity to feel wanted and valued in society, whether it be by their father, their son, their next door neighbour, it matters not, but actually if someone feels wanted and needed, then they will not engage in this type of activity” (P10, L552-555).* Perceived sense of affinity (Subtheme 3) was also noted to be a protective factor for critical incident engagement, e.g., *“having the support there is one thing, but it’s having a connection with someone that really matters. It’s being able to share ideas, interests and values with that person or persons. It might be having similar characteristics, experiences, or beliefs” (P8, L456-460).*

Staff perceived that valued and pro-social support can also be promoted by a supportive environment (Subtheme 4). This was found to be the case in the community, e.g., *“what we did try and do was get him accommodation that wasn’t near the roof, because he always had sieges on top of a roof where he would throw tiles down, so we tried to get him accommodation on a ground floor. We tried to take him away from the environment because drugs were an issue as well” (P3, L312-316).* Moreover, it was also found to relate to secure settings through the use of observation and interventions. For example, *“we try to notice if their behaviour is a bit different to what they normally do, like if they increase taking their medication, it’s like we’ve noticed this, can you tell us why you are doing it? And it’s just knowing your patient” (P5, L187-189)* and *“engagement in therapy and help is a huge protective factor” (P18, L353).*

Theme 3 - Pro social problem solving and coping skills.

Negotiators suggested that a range of problem solving and coping skills could provide

protective mechanisms against the perpetration of critical incidents. The skills and abilities discussed by staff included capability to recognise, manage and express emotion (Subtheme 1), ability to evaluate consequences (Subtheme 2), avoidance of rumination (Subtheme 3) and having the capacity to generate alternative solutions (Subtheme 4). Negotiators also stated that *“people who are de-skilled in a lot of these areas don’t have the time to plan and reach for alternative behaviours. I think a limited repertoire of skills is going to lead to somebody acting in a negative way”* (P6, L416-417). Negotiation staff also stated that ability to problem solve in terms of evaluating the problem and breaking it down can serve as a protective factor. However, it was also noted that *“that can work against you as well, because sometimes, if there isn’t an easy way out and you are intelligent, well you know it”* (P15, L373-375).

The environment was also considered to play an important role in both community and secure settings in influencing pro social problem solving and coping skills. Staff reported that this related to meaningful activity, e.g. *“If people are occupying their time constructively, then I do think that takes away from them an awful lot of this rumination which might lead to problems there. I always believe if people have got their days filled and occupied – and that’s one of the tragedies about seclusion is it takes away all these things and all of a sudden, they are locked in a room with lots of time to ruminate”* (P6, L395-399). Staff also noted that the environment may mitigate participation in critical incidents owing to procedural factors, e.g., *“when you are in here you do want good behaviour, you want to go up to being an enhanced prisoner. On your visits you get to have a couch visit where you can sit on your sofa, so they are probably thinking of the rewards they can get”* (P11,362-365).

Theme 4 – Self-belief and self-efficacy.

Staff also noted the presence of self-belief and self-efficacy to be an important protective factor related to critical incident engagement. For example, *“I actually think his confidence has grown*

*significantly within the last twelve months. His ability to actually deal with potential crisis has grown” (P16, L413-414). Factors identified as salient by staff included sense of confidence in problem solving skills (Subtheme 1), recognition of significance to others (Subtheme 2), perceived sense of control over future goals (Subtheme 3), and beliefs related to sense of resilience (Subtheme 4). Negotiators also reported the belief that the environment can enable the encouragement and maintenance of self-efficacy, as it provides an opportunity to give positive feedback. For example, “*primarily all that we have really done really is just say to this guy, look, if the bad things start happening, if you feel you are hitting a crisis, come and speak to us and we will do whatever we can do. And when that’s happened and we’ve established a little bit of trust and the first moment when this man actually sought help, what we do afterwards is took him to one side and said that was a great thing that you did and really brave. You actually came to us and you looked for help, we didn’t go down that path. We didn’t get to the stage where things got out of control. You actually took control, and you took responsibility for things and you’ve actually kind of informed how we manage the situation and you we at the centre of the whole thing, and look, we are all happy*” (P16, L397-407).*

6.4 Discussion

This exploratory study enabled the identification of a range of themes relating to staff perspectives of motivational, protective, and socioenvironmental factors for individuals who engage in critical incidents. All of the research aims were met, and the hypotheses were supported. The main themes pertaining to the functions of a critical incident were to achieve goals/ get needs met, to seek deliberate isolation from others by removing self from threatening environment, to gain control, to manage/cope with difficult emotion, to gain an opportunity for reflection and to fulfil a need to communicate or be listened to. As was the case in study one, these functions were not reported in isolation for each event, but an interaction of functions was often noted to be present.

A common feature of the identified functions was the concept of meeting individual needs and factors associated with unmet needs. This replicates the findings of Ireland et al., (2014), and also supports the findings of study one. This further supports the application of Cognitive Evaluation Theory (Deci, 1975), General Strain Theory (Agnew, 1992), and the Good Lives Model (Ward, 2002; Ward & Brown, 2004; Ward & Stewart, 2003). As such, it is concluded that there is sufficient support for the notion that engagement in critical incidents can be viewed through the lens of an attempt to meet subjectively valued needs and goals.

Further supporting the findings of study one, links were identified in relation to achieving a change of environment. This is also consistent with General Strain Theory which theorises that misconduct may result owing to an individual's experience of deprivation of positive stimulation, or the experience of negative stimulation within the environment (Agnew & Brezina, 2019; Morris et al., 2012). It is also arguable that this function interrelates with achieving or re-establishing individual protective factors e.g., social support networks that are present within particular environments. This demonstrates the overlap and interaction between functions and protective factors, which varies for each individual. This was a consistent finding within the results and provides support for an individually tailored negotiation response, and individualised approach to preventative action.

As was found in study one, engagement in critical incidents was also perceived as being driven by the goal of re-establishing and maintaining reputation and/or status. This subtheme was highly prevalent within community and secure settings and was also linked to securing future goals and meeting needs when they were blocked. This also has application to Cognitive Evaluation Theory (Deci, 1975) and General Strain Theory (Agnew, 1992). Negotiation staff also linked this to socioenvironmental factors that are typical in secure settings but may also be evident in community settings. These factors included high levels of control, increased surveillance and a presence of situations that inhibit autonomy and choice. This is consistent

with existing research which claims that such factors often reduce intrinsic motivation (Deci & Ryan, 2000) and may result in the perpetration of a critical incident to achieve both subjective and objective aims, as accounted for by both Cognitive Evaluation Theory (Deci, 1975) and General Strain Theory (Agnew, 1992).

Whilst not specifically noted in study one, challenging a perceived injustice was also reported to be a salient theme in study two. This was noted to be a result of dissatisfaction of care provision, disagreement with decisions that influence them and/or procedural factors. Nevertheless, it is possible that this was captured in study one under the theme 'to make others listen'. Again, this finding is consistent with General Strain Theory (Agnew, 1992), where it is suggested that factors specifically related to the prison setting and organisational approach can be stressful, thus motivating misconduct (Agnew & Brezina, 2019; Morris et al., 2012). It is noteworthy that this subtheme was also identified in the community, for example, when individuals are forced to comply with custody orders, or other policies and procedures. In addition, this was noted where individuals did not agree with decisions that influenced them, or indeed where they felt that they weren't been provided with adequate care or access to services. General Strain Theory (Agnew, 1992) may also have application across settings in relation to critical incidents and clearly this requires further research.

Building further on study one, achieving self-protection and seeking deliberate isolation from others by removing oneself from a threatening environment presented as important factors in study two. This may also be accounted for by General Strain Theory (Agnew, 1992), particularly in environments where negative stimulation is experienced. Moreover, the reported socioenvironmental stressors, such as boredom and monotony can be related to deprivation of positive stimulation, which has also been found to result in strain, leading to misconduct (Agnew & Brezina, 2019; Morris et al., 2012). The finding that engagement in critical incidents can be driven by the management of difficult emotion was identified in both study one and two.

This is consistent with the definition presented by Vecchi (2009) of individuals who are said to be in 'crisis' as a result of having exceeded their capacity to cope. The need to communicate or be listened to was considered to be an important motivating factor in this study, and in study one. Negotiators reported that individuals may perpetrate such incidents in order to make others listen and to seek a resolution to the problems that they encounter.

Whilst it was not found to be the case in study one, study two found that the perception of not being listened to was also associated with difficult emotions, such as frustration and anger, thus representing an interaction between the two subthemes. This finding was consistent with the available literature (e.g., Ireland et al., 2014; Mason, 2000), who also found that an inability to communicate was associated with a sense of powerlessness. This sense of powerlessness was noted to lead to critical incidents, and this appeared related to obtaining a platform of communication and a desire to escalate issues to managerial staff. This subsequently enabled the individual to achieve a sense of purpose and validation. The findings of this study add to the current understanding, as it was also reported that individuals often perpetrate critical incidents in order to have their views considered from an additional perspective.

A range of themes pertaining to protective factors were also identified in this study. These included inhibitory thoughts, the presence of a valued social support network, pro social problem solving and coping skills and self-efficacy. As was the case for motivating factors, many variables appeared to function simultaneously as both risk *and* protective factors (Lösel and Bender, 2003). This is not only considered to be the case for critical incidents but is also reported in wider psychological literature. It is important to note that there may be very specific protective factors that relate only to the individual in crisis or conflict, for example, a responsibility to feed a neighbour's pet. This study does not suggest that specific factors should be ignored in favour of simplistic themes, but it is hoped that the identification of more general categories may assist researchers to explore areas that they may not have initially considered.

Moreover, these findings do not suggest that the identified protective factors will directly reduce the likelihood of critical incident engagement, but an indirect effect may be more realistic and observable. The suggestion that there are potentially more indirect protective factors may also suggest the need for further exploration, as these are likely to be more difficult to detect. Research is yet to address the maintenance of protective factors over time and situation. Therefore, it is not currently known if protective factors can be diluted or weakened due to increased presence of vulnerability factors.

Negotiators also reported the protective mechanism of inhibitory thoughts related to awareness of consequences to self and others. This finding was again consistent with the findings of Ireland et al., (2014), who highlighted the salience of awareness of long term and significant negative consequences. A pertinent theme was identified relating to the awareness of consequences to others, and this was heightened where individuals had a valued social support network and/ or perceived a sense of belongingness with others. This does not feature as prominently in other research. This is perhaps because the data in this study was collected from negotiators who would strive to gather information of this nature to aid the negotiation process. As such, this is recognised as a core benefit of seeking the perceptions from other stakeholders.

Indeed, a range of problem solving and coping skills were considered central in fostering protective mechanisms related to the perpetration of critical incidents. The skills and abilities discussed by negotiators included emotion management, ability to evaluate consequences, avoidance of rumination and having the capacity to generate alternative solutions. This is the first known research to explore the construct of positive or adaptive problem solving in regard to critical incident engagement, yet existing research (i.e., Ireland et al., 2015) has found that an impulsive/careless problem-solving approach was a significant predictor of critical incident engagement. As such, further research is required to explore different problem-solving styles, and to determine impacts on critical incident engagement. This is captured in study four of this

thesis, and comparisons are made between those who have a history of critical incident engagement, and those who do not. It is hoped that this will support the identification of which problem-solving styles potentially present as vulnerability factors, and which may serve a protective mechanism.

Another important finding of study two was the potential for a protective factor to rapidly change to a motivating factor during an incident. This is consistent with existing literature (e.g., Lösel and Bender, 2003), where it has been found that variables can function simultaneously as risk/vulnerability *and* protective factors. Study three found this to be the case for self-efficacy, where it was suggested that this may enhance beliefs relating to competency to carry out the incident. It is currently unclear if this is also the case for other protective factors. Moreover, whilst it is accepted that protective and motivating factors can interrelate, the degree to which or indeed the factors that are most likely to simultaneously exist are currently unclear, thus warranting further exploration.

As predicted, socioenvironmental factors were considered pivotal in influencing a critical incident in respect of both functions and protective factors. In all the identified themes, environmental considerations were presented by negotiation staff. The socioenvironmental considerations identified in this research primarily related to the physical environment, for example, room size, location, procedure and policy, access to equipment or belongings, weather conditions, audience, staff supervision, activities, and programmes. Other environmental factors related to perceptions of the environment related to risk, danger, or reduced autonomy. The findings of this study support those of existing literature which suggest that the environment is often unhelpful in supporting successful negotiation (Alison et al., 2015a). This is also consistent with General Strain Theory (Agnew, 1992), which posits that the environment can contribute to subjective and objective strain (Agnew & Brezina, 2019). It is notable that on rare occasions the environment was reported to serve a protective function,

for example where it fostered the opportunity for positive feedback and intervention, however this was not frequently reported to be the case.

6.5 Limitations

This study is not exempt from potential limitations. Firstly, the sample size ($N=20$) is relatively small, however due to the qualitative approach significantly large amounts of data were yielded. It was felt that the richness of data was of greater significance than quantity of participants. Furthermore, the sample size is considered appropriate and falls within the suggested range for studies of this nature (Creswell, 1998). The sample size was also felt to adequately enable the capturing of a range of perceptions whilst controlling for the potential of redundant and/or repetitive data. Saturation (Saunders et al., 2018) was the guiding principle and data collection was terminated once it was felt that the research questions were adequately addressed, and that further data collection could not add to understanding. Representability was also a potential limitation as a disproportionate number of prison staff participated in comparison to police and psychiatric nurses. Whilst a range of perceptions from different organisations is a benefit of this research, it is not central to aims, nor are any comparisons made based on these variables. Fundamentally, all participants had undertaken training and had active experience of crisis negotiation.

Data was collected via the implementation of semi structured interviews which included interviewer prompts, and this may have somewhat restricted participants from fully discussing an area in an uninhibited manner and/or resulted in selective recollection. Attempts were made to control for this potential limitation (and for interviewer bias), by allowing sufficient time for each participant to respond and not progressing onto the next topic of discussion until the participant was ready. Moreover, participants were informed that they could revisit or add to any of their responses throughout and at the end of the interview. It was felt that the use of a

semi-structured interview was helpful in ensuring that the research questions were addressed, maintaining a degree of structure and in guiding the participants to relevant areas of interest. The fact that responses were audio recorded may have deterred individuals from participating in the research. Whilst assurances relating to confidentiality and anonymity during the final write up were emphasised, the recording of interviews may have reduced participant willingness to accurately report their beliefs relating to critical incidents. This may be of particular relevance when beliefs and attitudes were inconsistent with role expectations and/or with the nature of the organisation in which they are employed. It was however, considered on balance that audio recording was the most practical approach and enabled the accurate collection of information without being obtrusive (Patton, 2002).

Whenever information is explored relating to beliefs and attitudes there will always be a potential of social desirability bias. In this study participants were not only talking about a significant event for a perpetrator, but also for themselves. Staff beliefs may therefore be shaped by their own motivations such as self-preservation or by other relevant factors such as accountability (Waring et al., 2013). As negotiation staff may be awarding cognitive effort to achieving their own motivational goals, this can distract from the event (Waring et al., 2013). Furthermore, research suggests that factors such as accountability increase the potential of dilution effect by encouraging over attention to information, irrespective of relevance (Tetlock & Boettger, 1989). By attending to their own motivations then information processing capacity may be impaired by factors such as dual task interference (Waring et al., 2013). Therefore, a potential limitation of this study is that results may be informed by an incomprehensive understanding of functions and protective factors (for the perpetrator), and/or that perceptions may be informed by superfluous information.

6.6 Concluding comments

Study two highlighted further considerations regarding the motivating factors pertaining to critical incidents, whilst also considering protective factors and the role of the social environment. It has contributed to existing literature by exploring the views from the perspective of negotiators, and by building on the findings of study one, and existing literature. Study two offers further support for the psychological theory presented in this thesis, and in particular, General Strain Theory (Agnew, 1992), Self Determination Theory (Deci & Ryan, 1985), and the Good Lives Model (Ward, 2002; Ward & Brown, 2004; Ward & Stewart, 2003).

It is concluded that an individualised approach is necessary when responding to critical incidents, and it is hoped that studies one and two will be useful in prompting consideration of the general areas of importance for mitigating participation. Study two highlights factors that are modifiable over time and subject to change, thus, it would be helpful to also focus on the more stable characteristics and pre-existing vulnerabilities that the patient may bring to the critical incident. This involves identification of temperament factors (personality), and social problem-solving skills that may influence propensity to engage in critical incidents. This forms the aims of study four in this thesis. The findings of this study offer further support for the development of a model of understanding relating to critical incidents, which is the overarching aim of this thesis. Based on the findings of studies one and two, it is concluded that a model of understanding should account for the identified functions of critical incident engagement, psychological state factors (e.g., affect), socioenvironmental factors, individual background factors, and protective factors.

CHAPTER 7. STUDY THREE

Media/Public Enquiry Perspectives of Critical Incidents: An Exploration of Reported Functions and Organism Variables

7.1 Overview

7.1.1 Aims of study

Study three aimed to (1) examine potential *organism variables* and (2) explore potential *functions* (motivations) for engagement in critical incidents, based on perspectives depicted in the media and public enquiry reports.

7.1.2 Outline of study

Study three builds upon the findings of studies one and two, and on existing literature, in respect of organism variables and functions pertaining to critical incidents. It explores insights from an additional perspective and captures motivations of critical incidents extending beyond secure settings. A range of online media reports and public enquiry reports were accessed, all of which were readily available in the public domain. The purpose of this was to obtain information that would not necessarily be available to negotiators, such as relevant background information, and also information related to motivations of critical incidents within a community setting. As the research was entirely exploratory and there is very little research in this area, no preliminary assumptions were made, and an inductive approach was utilised.

7.2 Method

7.2.1 Sample

The sample comprised data from a total of 165 media and public enquiry publications relating to 24 critical incidents. Reported incidents included hostage taking ($n = 10$), barricade ($n = 9$),

and protests ($n = 5$). Of the 24 critical incidents, 10 of these took place in the UK, 11 of these occurred in the United States of America, one took place in the Philippines, one in Spain, and one in Iraq. Further details related to the critical incidents have been omitted to preserve the anonymity of those involved and to uphold respect to those impacted by events. Three critical incidents took place in secure settings (prison), and 21 incidents occurred in the community. All of those engaging in critical incidents were described as male. Reports included publicly available broadsheet and tabloid online newspaper reports, online encyclopaedia reports, and investigation reports published by the Crown Prosecution Service (CPS), Independent Police Complaints Commission (IPCC), and Prisons and Probation Ombudsman (PPO).

7.2.2 Procedure

A rapid evidence assessment approach was utilised, based on the three-phase approach (development phase, processing phase, and reporting phase) outlined by Varker et al., (2015). This included the utilisation of systematic review methods to search and critically appraise existing data (Grant & Booth, 2009). Due to the definitional challenges discussed in chapter two, publications were only included in the analysis if they reported negotiator deployment. The purpose of this being to ensure that incidents met the criteria of a ‘critical incident’. The inclusion criteria were also ‘*incidents reported in the last ten years [between 2008-2018]*’, and ‘*publications written in the English Language*’. Search terms used were ‘*hostage*’, ‘*barricade*’, ‘*protest*’, ‘*prison riots*’, ‘*riots*’, ‘*rallies*’, ‘*sit in’s*’, ‘*concerted indiscipline*’, ‘*prison strikes*’, ‘*prison protests*’, ‘*roof-top protests*’, and ‘*protests at height*’.

An online search engine (i.e., Google), an online encyclopedia (i.e., Wikipedia), and the Independent Police Complaints Commission (IPCC) reports database/archive were used to identify a range of reports relating to critical incidents meeting the inclusion and search criteria. Once a suitable critical incident was identified, broadsheet and tabloid-style news/media outlets

(e.g., BBC News, Telegraph, ITV News, Sky News, Yahoo News, The Mirror, The Guardian, etc.) were used to identify as many articles/reports as possible. To maximise reliability and methodological rigor, multiple sources of the same incident were identified and reviewed for each critical incident. The guiding principle of saturation (Saunders et al., 2018) was used and media reports duplicating information were omitted from analysis.

Identified media and public enquiry reports were then used to complete SORC functional assessments. This replicated the methodology in study one, and also replicated existing literature that has employed a SORC assessment approach with media publications (e.g., Birch et al., 2017; Hughes et al., 2018). Qualitative data from the SORC assessments was then coded and thematic analysis was completed, as per the same procedure outlined in the previous studies, and as recommended by Braun and Clarke (2006). Inter-rater reliability was also completed with the whole data set with an experienced researcher who had no prior knowledge of this research area.

7.2.3 Measures

SORC functional assessment framework (Lee-Evans, 1994).

The SORC framework captures antecedent events/setting conditions (S), organism variables (O), the response(s) (R), and the resulting consequences (reinforcers) (C) (Lee-Evans, 1994).

7.3 Results

This results section presents the synthesis of findings from the thematic analysis pertaining to the research questions, that is, themes relating to media perspectives of *the organism variables* and reported *functions (motivations)* of critical incidents. Whilst all media reports were freely available in the public domain, all identifiable details have been omitted to ensure anonymity, and as a mark of respect to those who have been adversely impacted by reported events.

Moreover, due to the limited detail/richness of information that is often characteristic of journalistic reporting, subthemes were commonly identified based on identifiable detail, and as such, has been omitted. Where this is the case, subthemes have been presented without supporting evidence, but theme labels have been carefully considered and agreed as part of the inter-reliability process to ensure that all relevant data is captured.

Contrary to existing findings (e.g., Hughes et al., 2018), no difference was found in regard to the reported organism variables and motivations of critical incidents in respect of the different types of incidents (i.e., hostage takings, barricades and protests). Moreover, no differences were observed based on the geographical location of the incident. As was the case in studies one and two, and in the existing literature, several interrelated and interdependent organisms and functions were identified for each critical incident. These are detailed below.

7.3.1 Summary of themes – Media Perspectives of Individual Background Factors (organism variables)

Four main themes related to *individual background factors* were identified: (1) mental health factors, (2) criminal background, (3) relationship difficulties, and (4) experience of acute emotion. A thematic diagram is presented in Figure 7.1 to illustrate each identified theme and subtheme pertaining to media perspectives of organism variables, with the narrative of each following thereafter.

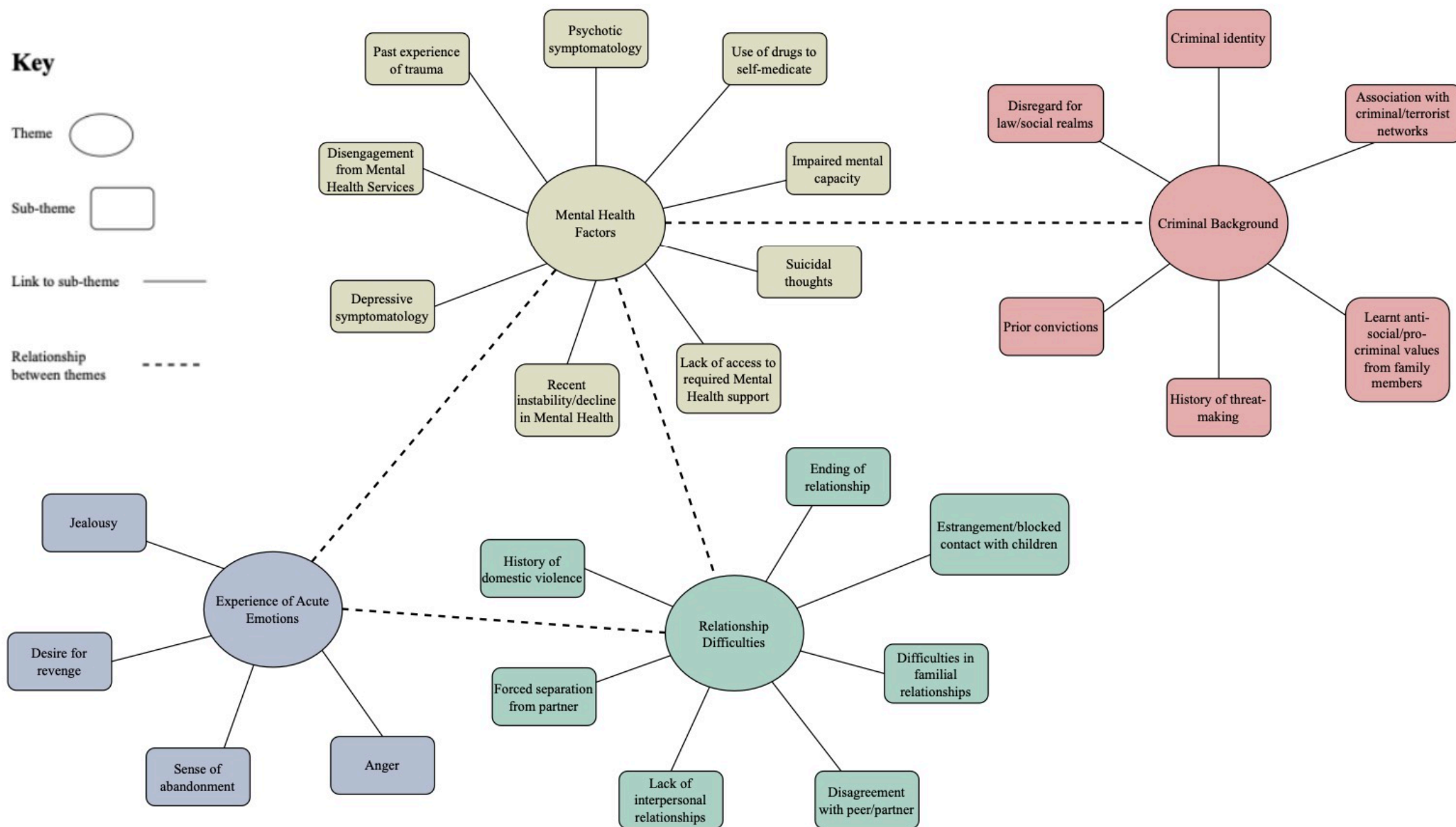


Figure 7.1: Thematic diagram illustrating each theme relating to media perspectives of organism variables and each respective subtheme.

7.3.2 Thematic synthesis

Organism variables:

Theme 1 – Mental Health Factors

Mental health related factors were reported as related to all reviewed critical incidents ($N=24$), with these related to mental health symptoms, and challenges associated with the management of mental health symptoms. It is noted that derogatory, stigmatising, and sensationalised terminology was often used in tabloid newspaper reports in relation to mental health. Such terms included, “*psycho*” (article 6g), “*mad*” article (6i) “*crazed eco-terrorist*” (article 5d), “*schizo*” (article 7b), “*nutjob*” and “*lunatic*” (article 17d). Nine subthemes were identified, including (1) experience of psychotic symptomatology, (2) depressive symptomatology, (3) past experience of trauma, (4) history of suicidal thoughts, (5) impaired mental capacity, (6) recent instability/decline in mental health, (7) lack of access to required mental health support, (8) disengagement from mental health services, and (9) use of drugs to self-medicate. For example, one article stated, “*XX had numerous failed admissions in mental health hospitals and the lack of community mental health resources resulted in him taking cocaine and other class A drugs just to drown out the voices and prevent suicide*” (article 13h).

Theme 2 – Criminal Background

A history of offending was reported in all but three reviewed critical incidents ($n= 21$), with this including details pertaining to prior convictions for offences against the person ($n = 13$), domestic violence, ($n= 3$), human smuggling ($n=1$), blackmail ($n=2$), and acquisitive offending ($n=7$). Again, stigmatising and sensationalised terminology was used, such as “*sordid past as a human smuggler*” (article 5c), “*belligerent thug*” (article 17e), and “*child torturer*” (article 24c). This theme was also found to be related to theme 1: ‘mental health factors’. Six subthemes

were identified, including (1) prior convictions, (2) disregard for the law/social norms, (3) association with criminal networks, (4) history of threat making, (5) criminal identity, and (6) learnt anti-social/pro criminal values from family members. For example, *“XX had a disturbing history of sick crimes. His family engaged in crime for years and solved problems related to drugs through the use of threats and violence. XX’s father engaged in a roof-top protest over ten years ago when serving time in XX. He and his family kept Her Majesty’s Prison Service in business, it was them against the system”* (article 21d).

Theme 3 – Relationship difficulties

Relationship difficulties were noted to be relevant to 50 per cent of the reviewed critical incidents ($n=12$), with these primarily relating to difficulties within intimate relationships ($n=10$) and others relating to a lack of interpersonal relationship ($n=1$), difficulties with peers ($n=1$), difficulties with family members ($n=2$), and lack of access to children ($n=2$). This theme was also found to relate to theme 1: ‘mental health factors’. Six subthemes were identified, including (1) disagreement with peer/partner, (2) ending of relationship, (3) difficulties in familial relationships, (4) lack of interpersonal relationship, (5) estrangement/blocked access to children, and (6) forced separation from partner. For example, one article stated *“Mr xx had lived with his wife since he was a teenager. The thought of being separated from her was unbearable and he was unable to even contemplate a future without her in it. The decision that he was unable to provide adequate care for his wife at home left him feeling depressed. He had told his friends of his intentions and could see no other alternative. If he couldn’t be with her, he didn’t want to be here at all”* (article 16a).

Theme 4 – Experience of acute emotions

The experience of acute emotions was reported to be salient in the vast majority of reviewed critical incidents ($n=22$). This theme was also found to be related to theme 1: ‘mental health

factors’, and theme 2: ‘relationship difficulties’. Four subthemes were identified, including (1) jealousy, (2) anger, (3) desire for revenge, and (4) sense of abandonment. As with the previous themes, sensationalised language was also used to describe individuals experiencing acute emotions, such as “*angry loner*” (article 2b) and “*he was incensed and consumed by a sense of immortality and moral depravity*” (article 17d). Emotions were also often contextualised within the pursuit of power and control, for example “*the anger was palpable, he could not tolerate the revelation that his position of power had been usurped*” (article 9f). When positive emotion was reported, this was presented in a negative context, for example, “*he seemed disturbingly calm whilst locked in his cell with XX’s body*” (article 24b).

7.3.3. Summary of themes – Media Perspectives of Functions

Four main themes related to *functions* were identified: (1) achieving goals/getting needs met, (2) criminal motivation, (3) a need to communicate or be listened to, and (4) to gain control. A thematic diagram is presented in Figure 7.2 to illustrate each identified theme and subtheme pertaining to media perspectives of functions, with the narrative of each following thereafter.

Key

Theme ○

Sub-theme □

Link to sub-theme —

Relationship between themes - - -

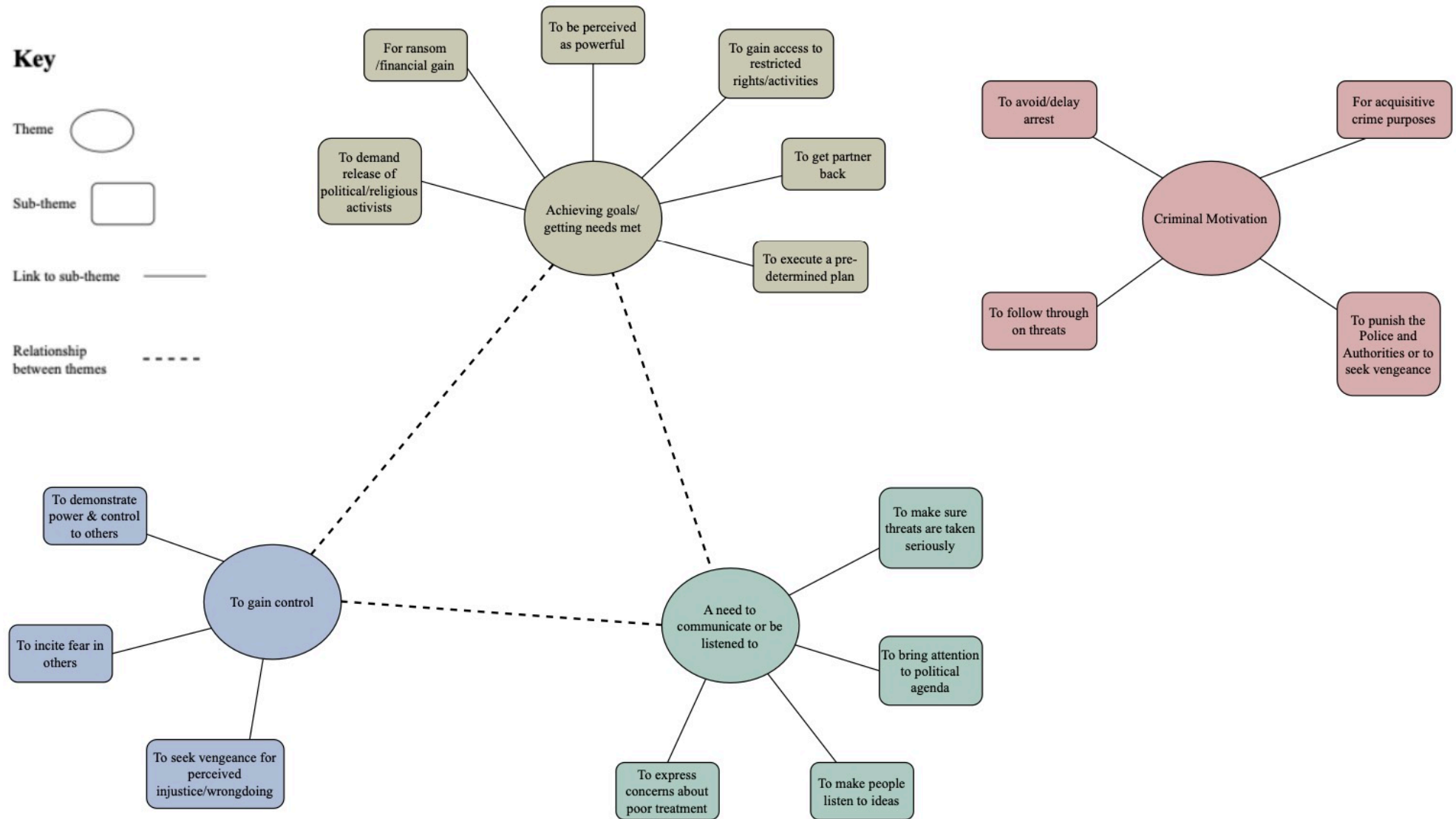


Figure 7.2: Thematic diagram illustrating each theme relating to media perspectives of functions, and each respective subtheme.

7.3.4 Thematic synthesis

Functions:

Theme 1 – achieving goals/getting needs met

A common theme reported in the reviewed media reports and public enquiry reports was that critical incidents were motivated by the achievement of goals and meeting of needs. This was reported in 66.67% of the reviewed incidents ($n=16$). Identified needs included financial needs, politically related aims, and the pursuit of personal goals. Six subthemes were identified including, (1) for ransom/financial gain, (2) to demand the release of prisoners or political/religious activists, (3) to execute a pre-determined plan, (4) to be perceived as powerful, (5) to get partner back, and (6) to gain access to rights/activities that have been restricted. In many of the reported articles there was a clear focus on what was trying to be achieved, yet little recognition of the factors underpinning this, or the fact that primary needs were often unmet. For example, *“he knew exactly what he wanted and there was no stopping him. He made the ransom with clear intention that he was going to get his own way”* (article 8b).

Theme 2 – criminal motivation

It was reported that critical incidents were also motivated by criminal factors in 58.33% of reviewed incidents ($n = 14$). Engagement was reported in the context of criminal acts, but also in the context of avoiding repercussions following offending. Four subthemes were identified including, (1) to follow through on threats made, (2) to punish/seek vengeance on the police/authorities, (3) for acquisitive crime purposes, and (4) to avoid/delay arrest. For example, *“he had killed his wife and his daughter. He knew that a life behind bars was waiting for him. He barricaded in the house and texted friends and family members. Perhaps he was*

trying to explain his actions? Perhaps he was making the most of what freedom he had left? Perhaps in his twisted mind he thought he could fix this? Either way, he eventually called 911 and confessed. He told them 'I am the gunman you are looking for. I killed them both'. Then after nearly 5 hours of negotiation, he surrendered” (article 10h).

Theme 3 – a need to communicate or be listened to

The perpetration of a critical incident due to the need to communicate and/or be heard was reported in 25% of reviewed incidents ($n=6$). This included situations where initial threats were not perceived to have been taken seriously, or where there was a desire to bring attention to a particular cause. This theme was also related to theme 1: ‘achieving goals/getting needs met’. Four subthemes were identified, including (1) to make sure threats were taken seriously, (2) to bring attention to political agenda, (3) to make people listen to ideas, (4) to express concerns about poor treatment. For example, *“he just wanted to be taken seriously, he really believed that no one cared”* (article 14c) and *“they wanted the world to know about the poor and squalid conditions. They exposed XXX for the harsh prison regimes and substandard food quality. They wanted media coverage and for the country to stand and listen”* (article 23a).

Theme 4 - to gain control

Of the reviewed incidents, only 12.5% ($n = 3$) were noted to have been motivated by a need to gain control. This theme was also related to theme 1: ‘achieving goals/getting needs met’ and theme 3: ‘a need to communicate/be listened to’. As with theme 1, there was very little recognition of factors underpinning the initial loss of control, and this was often reported within a deviant context. Three subthemes were identified, these included, (1) to demonstrate power and control to others, (2) to incite fear in others, and (3) to seek vengeance for perceived injustice or wrongdoing. For example, *“he wanted to make them pay, it was cold, calculated, and methodical. In his eyes, he knew exactly who was to blame for taking away his freedom*

and what mattered most. He wanted to make them pay. He took great pleasure from the fact that he had caused immense fear and suffering in others. He had a strange life; he was raised mainly by the streets, and he was exceptionally well connected. He grew up around people who took what they wanted from others, and exerting power and control over others was rewarded. This was further reinforced by his connections with the underworld and time served in prison. He was a product of criminal socialisation and in many people's eyes, he is a hero for his actions" (article 17e).

7.4 Discussion

Study three enabled the identification of a range of themes relating to media/ public enquiry perspectives of organism variables and functions related to critical incident engagement. A key observation in study three was the use of derogatory terminology and sensationalised language in media/public enquiry reports pertaining to critical incidents. This may have detrimental impacts on societal discourse and attitudes towards those who engage in critical incidents, and this may contribute to unhelpful societal perceptions where critical incident engagement is viewed solely through the lens of deviant misconduct.

In respect of individual background factors, mental health factors, criminal background, relationship difficulties, and experience of acute emotion were reported to be relevant to critical incident engagement. There was a greater focus on the presence of mental illness and history of criminality, however there was also focus on wider aspects of mental health, such as symptom management and access to support services. As such, media perspectives considered other salient factors, and which was not anticipated. Regarding mental health symptomatology, the findings of study three corroborate existing findings pertaining to the presence of psychotic symptomatology and depressive symptomatology in those who engage in critical incidents (e.g., Alexander & Klein, 2010; Coid, 2002; Daniels et al., 2016; Fuselier, 1988). Positively,

there was also recognition that psychological trauma may relate to critical incident engagement, which perhaps reflects wider societal recognition of traumagenic impacts for the individual and wider society. Nevertheless, there was little focus on the impacts of mental health factors on functioning, thus critical incidents were not conceptualised as a means of managing mental health symptomatology, rather as a by-product of mental illness.

In regard to criminal background, there was a greater focus on criminal history, yet this extended beyond the presence of prior convictions. This also appeared linked more broadly to criminal identity, and social transmission of anti-social values. Therefore, study three sheds further light on specific aspects of criminality relating to critical incident engagement, where this primarily appears to be linked with a history of aggression towards others and offending characterised by impaired problem solving. Moreover, criminal background was found to be associated with maladaptive problem-solving in the context of social functioning, and in one incident, socially learnt behaviour was reported to be directly associated with critical incident engagement. As such, the findings of study three further build on those in studies one and two, also lending the support to socio-schematic theories discussed in chapter four of this thesis, such as Social Learning Theory (SLT) (Bandura, 1977) and Social Identity Theory, (SIT) (Tajfel, 1978; Tajfel & Turner, 1979). For example, it was reported that anti-social values were learnt from parents via social processes, and this may also be linked to association with anti-social networks (e.g., gangs), where values may be learnt from pro-criminal peer associations.

This may also link with Differential Association Theory (Sutherland, 1947), which posits that criminal behaviour is learnt via interaction and communication with interpersonal groups (Opp, 2020), and by General Strain Theory (Agnew, 1992), which states that deviant peer groups provide role models and reinforcement for deviant behaviour and values (Agnew, 1992; Agnew & Brezina, 2019). As such, study three builds upon the existing findings by offering further insight regarding the potential sociocultural origins and aetiology of relevant organism

variables. However, caution must be taken when relying upon media/public enquiry reports, which likely make inferences in regard to the social transmission of deviant behaviours, as these are likely based on factors such as association with criminal peers and family members. Therefore, it is too premature to make conclusions in this regard and the relationship between socio-schematic factors and critical incident engagement remain poorly understood.

Regarding the media perspectives of the functions of critical incidents, four themes were identified in study three, including achieving goals/getting needs met, criminal motivation, a need to communicate or be listened to, and to desire to gain control. These themes reflect findings in existing research (e.g., Hatcher et al., 1998; Hughes et al., 2018; Ireland et al., 2014) and lend further support for the application of Cognitive Evaluation Theory (Deci, 1975), Self Determination theory (Deci & Ryan), General Strain Theory (Agnew, 1992), and the Good Lives Model (Ward, 2002; Ward & Brown, 2004; Ward & Stewart, 2003). Each of these identified themes appear associated with the concept of reduced coping, thus it is argued that critical incident engagement is best conceptualised as a means of meeting primary needs, albeit in a maladaptive way.

The findings of study three did not include socioenvironmental factors, which is perhaps reflective of the lack of attention to this in the existing literature. It is interesting that societal/media perspectives focus more on risk and vulnerability factors pertaining to the individual, as opposed to wider socioenvironmental factors. Perhaps this accounts for the lack of existing focus on prevention of critical incidents, and the overfocus on reactive management approaches. It is argued, however, that failure to attend to socioenvironmental factors inhibits the effective prediction and management of critical incidents, particularly as these are noted to be salient factors by both perpetrators of critical incidents, and negotiators. Nevertheless, this study did reveal several internal and external (situational) factors that were considered relevant to critical incident engagement, thus adding to existing literature.

As was the case in studies one and two, and contrary to existing literature (e.g., Hughes et al., 2018), no differences were observed in relation to critical incident type. Interestingly, 37.5% of the critical incidents reported in this study were barricades, which have received very little attention in the literature overall. Despite this, it is concluded that the literature pertaining to other critical incidents (e.g., hostage taking and protests) is also likely to apply to barricades, yet this requires further exploration. A further aspect that was found to be contrary to existing literature (e.g., Hughes et al., 2018), was the presence of both negative and positive reinforcers. These often appeared to be person and situation specific, such as engaging in critical incidents to foster 'suicide by cop' to the remove of guilt associated with offending, or sadness associated with perceived inadequacy. As such, the findings of study three support the suggestion of Verma (2007), that critical incidents may be reinforced by both negative and positive reinforcement. Nonetheless, as concluded in studies one and two, this finding offers further weighting for the implementation of an individualised approach in ascertaining risk and vulnerability factors.

Study three offered little in the way of furthering understanding of unhelpful cognitions, beliefs and attitudes pertaining to critical incident engagement. This is perhaps unsurprising given that media perspectives seldom account for the perspectives of those who engage in critical incidents, and rarely include information gleaned from key stakeholders, such as perpetrators and negotiators. Study three, however, does enable further understanding of the role of affect in critical incident engagement, particularly where this pertains to the acute experience of emotions. The findings revealed that this also appeared linked to relationship difficulties, which also precipitated critical incident engagement in some cases. This builds upon existing understanding, not only by highlighting pertinent emotions, but also by identifying the context in which this may be of key relevance.

7.5 Limitations

Similar limitations in related to the methodology in studies one and two are also relevant to study three, for example, subjectivity and researcher bias. It is possible that the risk of this was further increased owing to completion of the earlier studies, and it is also possible that greater attention was awarded to themes already identified in this thesis. Nevertheless, efforts were made to address the potential of researcher bias via the completion of interrater reliability on the full data set with an experienced researcher. The researcher was purposely selected due to their lack of knowledge in this research area, as it was felt that this would minimise the likelihood of confirmation bias, framing effects, and selection bias. Nonetheless, it is not possible to fully rule out the potential of prior assumptions influencing the findings.

The sample size ($N=24$) is comparable to other research of this nature (e.g., Hughes et al., 2018), however it recognised that the inclusion criteria may have limited the sample size somewhat. For example, reports outside of the 10-year timeframe, written in a different language, and not specifically reporting negotiator deployment were disregarded. It is possible that this impacted the diversity and breadth of themes identified, thus impacting the generalisability of findings. Attempts were made to diversify data, for example, via the inclusion of worldwide reported critical incidents, yet there was an overrepresentation of critical incidents occurring in the UK and USA. This is likely owing to the inclusion criteria whereby only reports written in the English language were selected for analysis. This was for no other reason than the native background of the researcher and the challenges that would likely have been associated with translation, not least given the already significant definitional challenges.

Failure to include data in a range of languages is a common pitfall of rapid evidence assessments, as is the omission of data extending beyond established timepoints (Varker et al.,

2015). The search terms used may have also presented limitations. For example, whilst there were efforts to include a range of terms as identified in chapter two of this thesis, such as *'hostage'*, *'barricade'*, *'protest'*, *'prison riots'*, *'riots'*, *'rallies'*, *'sit in's'*, *'concerted indiscipline'*, *'prison strikes'*, *'prison protests'*, *'roof-top protests'*, and *'protests at height'*, other terms were identified in the final analysis that were not included in the initial search, such as *'siege'*, *'hijacking'*, *'hold-up'* and *'stand-off'*. It is therefore possible that some articles may have been unintentionally excluded from the search.

It is also possible that relevant data was not included in the analysis due to reporting/publication bias. For example, it is noted that all perpetrators reported to have engaged in the identified critical incidents were reported to be male. It is unclear if this is a general reporting bias, whereby critical incidents perpetrated by females are less likely to be reported as such, or it is possible that negotiation professionals are less likely to be deployed. Overall, gender differences in respect to both the perpetration and reporting of critical incidents clearly require further research. Other reporting biases may too be relevant, for example quality and accuracy of reporting, and attention to wider contexts. Media publications often provide information within specific contexts. As it was not always possible to consider the broader context surrounding the articles, such as historical events, social dynamics, or cultural factors, the analysis may have failed to capture certain nuances and interpretations.

On a similar note, it is possible that the findings were influenced by a degree of selector bias, for example, due to an unconscious preference for certain media outlets who adhere to more rigorous reporting standards. However, attempts were made to address this via the inclusion of data from multiple sources, and subsequently a significant amount of representative data was yielded. Moreover, the use of a functional analysis approach (SORC) to capture data and the implementation of thematic analysis was utilised to ensure that available data was investigated as thoroughly as possible, and with attention to methodological rigour.

It is also possible that articles including additional information were not located during the search phase, and whilst the guiding principle of saturation was implemented, it cannot be determined if all available data was identified for the final analysis. As such, whilst it was not the aim of this study to identify *all* relevant data, the unintentional omission of key information related to organism variables and motivations of critical incident engagement cannot be ruled out. On a final note, the available data and methodological approach did not allow for the identification of protective factors, thus preventing a holistic understanding of factors underpinning critical incident engagement. This forms a key aim of the fourth and final study of this thesis, which aims to award equal attention to both potential vulnerability and protective factors related to critical incident engagement.

7.6. Concluding comments

Study three builds upon the findings of studies one and two, and on existing literature, in respect of organism variables and functions pertaining to critical incidents. It offers further insight from an additional perspective, and it further extends the scope beyond critical incidents occurring within secure settings. Study three offers further support for the integration of General Strain Theory (Agnew, 1992), Self Determination Theory (Deci & Ryan, 1985), and the Good Lives Model (Ward, 2002; Ward & Brown, 2004; Ward & Stewart, 2003) when understanding critical incident engagement. It also captures the *potential* application of socio-schematic theories, such as Social Learning Theory (SLT) (Bandura, 1977) and Social Identity Theory, (SIT) (Tajfel, 1978; Tajfel & Turner, 1979), yet this requires further exploration. The findings of study three emphasise the clear need for an empirically driven model of understanding, not least so that potentially harmful societal perceptions can be addressed, and unhelpful social discourse can be challenged. It is argued that this is fundamental to the effective management and subsequent reduction of critical incident engagement.

CHAPTER 8. STUDY FOUR

Critical incident engagement: A quantitative examination of internal vulnerability and protective/promotive factors impacting on functioning.

8.1 Overview

8.1.1 Aims of study

Considering the findings of the first three studies, study four extended beyond motivations of critical incidents and aimed to capture the more stable internal characteristics that may impact functioning. This included an exploration of personality styles/domains, personality traits, personality functioning, social problem-solving style, protective factors, and resilience, thus representing salient themes previously identified. This study explored if these internal characteristics predicted engagement in critical incidents, and/or if they served a protective mechanism, potentially mitigating engagement. This study aimed to explore what personality traits and more stable characteristics are associated with engagement in critical incidents.

8.1.2 Outline of study

The study utilised a cross sectional design, and questionnaires were completed by males residing in high and medium secure forensic psychiatric settings, including those with and without a history of critical incident engagement. The study used validated measures to capture personality traits (unhelpful and caring), personality functioning, problem solving style, and resilience. A self-report measure of strengths and protective factors was also developed, which was based on the items included in the Structured Assessment of Protective Factors for Violence Risk (SAPROF: de Vries Robbé & de Vogel, 2014), and with the lead authors permission. Those with a history of perpetrating critical incidents were asked to complete the measure capturing strengths and protective factors based on the six months prior to the most recent incident of critical incident engagement, and those with no history of critical incident engagement were asked to rate items based on the past six months.

8.1.3 Hypotheses

The following predictions were made:

(1) Based on existing findings (i.e., Ireland et al., 2015) and Eysenck's PEN theory of criminality (Eysenck, 1970), it was predicted that extraversion would positively predict critical incident engagement.

(2) Based on the themes identified in studies one, two, and three related to the acute experience of negative affect, and Eysenck's PEN theory of criminality (Eysenck, 1970), it was hypothesised that neuroticism would positively predict critical incident engagement.

(3) Based on the findings of studies one, two and three, and Eysenck's PEN theory of criminality (Eysenck, 1970), it was predicted that dissocial tendencies, as defined by the PAPA (Lewis, 2014; Lewis et al., 2017), would be significant positive predictor of critical incident engagement.

(4) Based on the findings of studies one, two and three, it was hypothesised that increased impairment of interpersonal functioning would positively predict critical incident engagement.

(5) Based on existing research (i.e., Ireland et al., 2015), it was hypothesised that an impulsive/careless problem-solving approach would be a significant positive predictor of critical incident engagement.

(6) It was further predicted that a positive problem orientation would predict non-engagement in critical incidents.

(7) It was hypothesised that increased levels of resilience would be a significant negative predictor of critical incident engagement.

(8) Finally, it was predicted that increased levels of protective factors would be a significant negative predictor of critical incident engagement.

8.2 Method

8.2.1 Sample

The original sample comprised 63 participants, and nine later withdrew from the research. The final sample therefore comprised 54 participants residing in high ($n = 42$; 77.8%) and medium ($n = 12$; 22.2%) secure forensic psychiatric services. Participants reported the following age ranges; age 21-25 ($n = 4$; 7.4%), age 26-31 ($n = 17$; 31.5%), age 32-36 ($n = 7$; 13.0%), age 37-41 ($n = 11$; 20.4%), age 42-46 ($n = 5$; 9.3%), age 47-51 ($n = 6$; 11.1%), age 52-56 ($n = 3$; 5.6%), and age 57-61 ($n = 1$; 1.9%). All participants ($n = 54$; 100%) identified as male. The sample were predominantly 'White/ White British' ($n = 44$, 81.5%), and other ethnicities included 'Dual Heritage' ($n = 6$, 11.1%), and 'Black/ Black British' ($n = 4$, 7.4%). 26 participants reported comorbidity, with a diagnosis of *both* mental illness *and* personality disorder (48.1%), 25 reported a primary diagnosis of personality disorder (46.3%), and three individuals reported a diagnosis of mental illness (5.6%). 30 (55.6%) individuals reported a history of critical incident engagement (hostage taking, barricade and protest) and 24 (44.4%) reported no previous engagement.

8.2.2 Ethical and safety considerations

Ethical approval was obtained from the UK NHS North West Committee UK (19/NW/0008) and University of Central Lancashire Ethics Committee. A letter was sent to the Responsible Clinician (RC) for every service-user in high and medium secure services outlining the full details of the study, the inclusion criteria (sufficient understanding of the English language), and a request for clearance to approach. Responsible Clinicians were asked to sign and date the approval form if they deemed the service-user to have capacity to consent to engage in the research study, sufficient understanding of the English language, and if they considered engagement in this research study appropriate for the individual. RC consent was provided for 114 service users. Service users were not approached until clearance to approach was obtained from the RC in the first instance.

Prior to the researcher approaching any service-users, they telephoned ahead of arrival on the

ward on each occasion to ensure that the ward was sufficiently settled, and that researcher attendance would not be destabilising. Due to the dynamic and fluctuating nature of mental disorder, approval to approach the service-user was also sought on the day from the nurse in charge. The 114 eligible service-users were approached on an individual basis in the interview room on the ward on which they resided, and they were provided with accessible verbal and written information [Appendix 3] pertaining to the research study. Service-users were given the opportunity to ask any questions and they were encouraged to take time to consider subsequent participation. A return date was scheduled at a mutually convenient time and service-users were informed that they could cancel the return visit should they wish to, without giving reason, by asking their named nurse to contact the researcher. Participation was entirely voluntary. Of the 114 service users who received RC clearance to approach, 63 provided initial consent to engage, with nine individuals later withdrawing, thus resulting in a final sample of 54. Written consent [Appendix 3] was obtained from those agreeing to participate on return of the researcher and a mutually convenient time for data collection was agreed. It was emphasised that participation would not have any bearing on the provision of care and/or treatment, and that support could be obtained from the nursing team following participation, if required. Participants were advised that if they shared any information pertaining to an undisclosed act or offence, safeguarding concerns, and/or risk to themselves or others, this would be shared with relevant security and safeguarding teams.

8.2.3 Procedure

Participants were provided with a questionnaire pack on an individual basis in a ward interview room. They were given the option as to whether they wanted to read and complete the questionnaires independently, or if they would prefer the questions of the measures to be read out loud to them. 48 (88.89%) participants opted to have the questions read aloud to them, and laminated cards with the response scales for each measure were presented to them at the

appropriate time to assist this process. 6 participants (11.11%) opted to read and complete the measures themselves, and these were completed in the presence of the researcher in the interview room. No participants opted to take the questionnaire away pack with them to complete in their own time, despite this being offered to all participants. 21 (38.89%) participants completed the questionnaire pack in one sitting, and 33 (61.11%) participants completed the research over several sessions, and at a pace suitable for them. The number and length of sessions was determined by the participant on each occasion.

8.2.4 Measures

The following measures were utilised in study 4:

The Social Problem-Solving Inventory-Revised Long (SPSI-R: L; D’Zurilla, et al., 2002)

The SPSI-R:L is a 52-item multidimensional self-report measure of social problem-solving ability. Participants rate items using a 5-point Likert scale ranging from, 0 – ‘not at all true of me’, and 5 - ‘extremely true of me’. The SPSI-R:L includes five component scales with two measuring problem-solving orientation, and the remaining three measuring problem-solving style. The sub-scales that measure problem-solving orientation are the positive problem orientation (PPO) and negative problem orientation (NPO) scales. The latter three component scales of the SPSI-R:L include Rational Problem-Solving (RPS), Impulsivity/Carelessness Style (ICS), and Avoidance Style (AS). The total SPSI-R:L score and each subscale have a mean of 100 and a standard deviation of 15. Higher scores represent “good” social problem-solving ability, and lower scores are characteristic of “poor” problem-solving ability, with this indicating functional impairment. Scores ranging from 86-114 are considered to be in the normative group average for each scale. The five components can be added to determine the total score of social problem-solving or each component scale can be interpreted individually (D’Zurilla et al., 2002). Example statements include, “*When I am faced with a difficult problem I believe that I will be able to solve it on my own if I try hard enough*”, “*When I’m trying to*

solve a problem I get so upset that I cannot think clearly”, “Before I try to solve a problem, I set a specific goal so that I know exactly what I want to accomplish” and “When I have a decision to make, I do not take the time to consider the pros and cons of each option”. Based on ranges outlined by Konting et al., (2009), the SPSI-R is indicated to have acceptable to excellent reliability, with subscales ranging from .70 to .95 (D’Zurilla et al., 2002).

International Personality Item Pool – 50 item measure (IPIP; Goldberg et al., 1999)

The International Personality Item Pool (IPIP) 50 item measure is a widely used and freely available questionnaire that assesses various dimensions of personality traits. Developed by Goldberg et al. (1999) and informed by the PEN model (Eysenck, 1970), the IPIP offers an extensive inventory of items based on the well-established Five-Factor Model (FFM) of personality. The IPIP measure utilised comprises 50 items, measuring the ‘Big Five’ personality domains: Extraversion, Agreeableness, Conscientiousness, Neuroticism and Openness. Examples of items include. *“I am the life of the party”, “I feel little concern for others”, “I am always prepared”, “I get stressed out easily” and “I have excellent ideas”.* Participants are asked to rate how accurately the statement in each item describes them on a 5-point Likert scale, ranging from 1 - *‘very inaccurate*, to 5 - *‘very accurate*. Based on ranges outlined by Konting et al., (2009), the IPIP 50 item scale is reported to be of good reliability, with Cronbach’s alpha ranging from .73 to .82 on each of the subscales (Turner & Ireland, 2010).

Psychopathic Processing and Personality Assessment (PAPA; Lewis, 2014; Lewis et al., 2017)

This 29-item measure comprises four factors; dissocial tendencies; emotional detachment; disregard for others; and lack of sensitivity to emotion. This measure explores explicit cognition and affect in psychopathy, as well as tapping into the core personality traits identified by Cleckley (1941, 1988). At one end of the scale the measure looks at a challenging personality style, and at the other, a responsible caring personality style. Participants respond

to a series of statements by circling the appropriate response on a five-point Likert type scale ranging from *very unlike me* (1) to *very like me* (5). Example items include, “*I often don’t think of the consequences of my actions*” and “*I find it impossible to resist temptation*”. Based on ranges outlined by Konting et al., (2009), the PAPA is indicated to have good overall reliability ($\alpha = .81$; Lewis, 2014).

Level of Personality Functioning Scale-Brief Form – (LPFS-BF; Hutsebaut et al., 2016)

The LPFS-BR is a short, user-friendly instrument that provides a quick impression of the severity of personality pathology, specifically oriented to the DSM-5 model (American Psychiatric Association, 2013). The instrument includes six items for self-functioning and six items for interpersonal functioning, and three items for each facet within the four LPFS subdomains (identity, self-direction, empathy, and intimacy). The LPFS– BF is a 12-item self-report measure, and participants are asked to indicate for each item whether they think it applies to them using a simple binary response of ‘yes’ or ‘no’. Example items include “*My relationships and friendships never last long*”, “*I often feel very vulnerable when relations become more personal*” and “*I often do not succeed in cooperating with others in a mutually satisfactory way*”. Based on ranges outlined by Konting et al., (2009), internal consistency is reportedly acceptable for the LPFS-BF total scale ($\alpha = .69$), and questionable to acceptable for the Self Functioning ($\alpha = .57$), and Interpersonal Functioning subscales ($\alpha = .65$) respectively (Hutsebaut et al., 2016).

Resilience Scale for Adults (RSA; Friborg et al., 2005)

The RSA is a measure of intrapersonal and interpersonal protective factors considered to facilitate adaptation to psychosocial adversities (Friborg et al., 2003; Hjemdal et al., 2015). The evidence supporting its construct validity is good, with subscales ranging from .70 to .95 (Windle, Bennett, and Noyes, 2011). The RSA includes 33 items, scored on a 5-point Likert scale. Items cover six dimensions assessing protective factors at multiple levels and

demonstrate good overall reliability: (1) Perception of self: 6 items– ($\alpha = .74$), (2) Planned future: 4 items ($\alpha = .73$), (3) Social competence: 6 items ($\alpha = .83$), (4) Structured style: 4 items ($\alpha = .80$), (5) Family cohesion: 6 items ($\alpha = .80$), and (6) Social resources: 7 items ($\alpha = .74$) (Hjemdal et al., 2006). The four first factors assess resilience factors at a personal level and the two latter assess resilience factors at a family and a social level. Example statements include, “*when something unforeseen happens... I always find a solution/I often feel bewildered*” and “*when needed, I have... no one who can help me/ always have someone who can help me*”. The RSA response scale adjusts to mitigate acquiescence response biases by using a semantic differential response format, and positive and negative adjectives to the right for every other item (Friborg et al., 2006). Scores vary from 33 to 165, with higher scores reflecting increased levels of resilience. Reliability and validity are satisfactory, with internal consistency coefficients and test-retest correlations ranging from .76 to .86 (Friborg et al., 2005), and .69 to .84 (Friborg et al., 2003), respectively. Confirmatory factor also analysis revealed a satisfactory fit (Friborg et al., 2005; Hjemdal et al., 2006).

Self-report measure of strengths and protective factors, based on items included in the Structured Assessment of Protective Factors for Violence Risk (SAPROF: de Vries Robbé & de Vogel, 2014), and with the lead authors permission.

Items from the SAPROF were modified into a questionnaire/self-appraisal format, and participants were asked to rate their level of agreement with 46 statements on a 5-point Likert scale, ranging from 1 - ‘*strongly disagree*’, to 5 - ‘*strongly agree*’. They were also asked to rate their perceived level of intelligence on a 5-point Likert scale, ranging from 1 - ‘*very below average*’, to 5 - ‘*very above average*’. Presence of a secure attachment with at least one pro-social adulthood in childhood was also rated on a 5-point Likert scale, ranging from 1 - ‘*extremely absent*’, to 5 - ‘*extremely present*’. Participants were advised to disregard items that did not apply to them, for example, statements regarding medication responsivity and

compliance if they were not prescribed medication. The measure comprised three subscales mapping onto the SAPROF domains, namely *internal* items, *motivational* items, and *external* items. Participants were asked to self-report strengths and protective factors based on a specific time period 6 months prior to their engagement in a critical incident or based on the past six months if they had never engaged in a critical incident. Example statements include, “*I had a sense of purpose and hope for the future*”, and “*I was able to tell others and/or seek support if I had a problem I could not solve alone*”. Cronbach’s alpha coefficient for this measure is presented in Table 8.1 below.

8.3 Results

Data analysis was completed using IBM SPSS Statistics, version 29. Firstly, the data screening process is outlined, followed by the internal consistency of utilised measures. The main analyses are presented thereafter, whereby binomial regressions are presented to explore the predictive value of personality traits, personality functioning, problem solving style, resilience, and strengths/protective factors on engagement and non-engagement in critical incidents.

8.3.1 Data screening

In preparation for analysis all variables were examined for erroneous values, out-of-range values, missing values, and univariate and multivariate outliers. In addition, a preliminary inspection of normality was made. Analysis revealed that all variables appeared to have legitimate values, although several cases presented with missing data. Three cases presented with >5% of missing data (cases 1, 14 and 47), thus data from these participants were eliminated from further analysis, as suggested in Tabachnick and Fidell (2007). No pattern was identified for the missing data, and it was found that data was missing completely at random ($\chi^2 = 3224$, $df = 689$, $p > .05$). The remaining missing cases were replaced by assigning estimated missing values, for this purpose Expectation Maximisation (EM) was used. Univariate outliers were dealt with by increasing the outliers at the top of the range by one unit

larger than the next extreme value and outliers at the bottom of the range were changed to one unit smaller than the next most extreme score. This was successful in removing all univariate outliers. Multivariate outliers were assessed when testing the assumptions for analysis, as outlined in section 8.3.3.

A thorough examination of the distributional properties of the variables was conducted. Several variables displayed skewness and kurtosis, deviating from a normal distribution. However, given that binary logistic regression does not require the assumption of normality, these findings did not impact the integrity of the analysis. Instead, logistic regression models probabilities with a binary outcome, mitigating against non-normal distributions and heteroscedasticity, both of which were present in some variables in the dataset. Additionally, the non-normal distribution of central tendencies and percentiles did not impact the results, given the emphasis of logistic regression on the relationships between the predictor and outcome variables. Notably, the assumptions specific to logistic regression were not violated, as outlined in section 9.3.3, thus ensuring the validity of results despite the observed non-normal data patterns.

8.3.2 Preliminary analyses

Cronbach's alpha was used to calculate internal reliability for all measures and coefficient values are presented in Table 8.1. As per the guidelines provided by Konting et al., (2009), a Cronbach's alpha of .61 or more is considered acceptable. It is noted that the coefficient values of the subscales of the LPFS - BF were $\alpha = .59$ (self-functioning) and $\alpha = .60$ (interpersonal functioning) respectively. The lower coefficient values can be explained by the small number of items in the questionnaire ($N = 12$), and on each subscale ($n = 6$), and which can result in decreased internal consistency (Streiner, 2003). Nevertheless, the coefficient value for the scale total was .70, indicating acceptable internal consistency, thus the measure was retained for analysis and the limitations of this are discussed in section 8.4.

Table 8.1: Descriptive statistics and Cronbach's α for all measures

Measure	Variable	N	M	SD	Observed Range	Potential Range	A
Self-report measure of strengths and protective factors, based on items included in the Structured Assessment of Protective Factors for Violence Risk (SAPROF; de Vries Robbé & de Vogel, 2014)	Total	54	145.53	31.75	66 - 224	48 - 240	.89
	Internal Items	54	32.31	7.89	15 - 49	11 - 55	.61
	Motivational Items	54	66.52	19.10	25 - 106	22 - 110	.87
	External Items	54	46.65	9.70	26 - 69	15 - 75	.60
Resilience Scale for Adults (RSA; Friborg et al., 2005)	Total	54	120.53	23.32	35 - 165	33 - 165	.91
	Personal Strength / Perception of Self	54	20.96	5.83	6 - 30	6 - 30	.78
	Personal Strength / Perception of Future	54	14.35	4.77	4 - 20	4 - 20	.84
	Semi-Structured Style	54	13.30	4.05	4 - 20	4 - 20	.63
	Social Competence	54	20.54	6.51	6 - 30	6 - 30	.85
	Family Cohesion	54	23.05	5.60	8 - 30	6 - 30	.82
	Social Resources	54	28.28	6.06	7 - 35	7 - 35	.82

Table 8.1 continued

50 item representation of the International Personality Item Pool Big 5 Domain (IPIP; Goldberg, 1999; Goldberg et al., 2006)	Total	54	170.91	23.64	88 – 248	50 – 250	.89
	Extraversion	54	31.06	7.27	15 – 50	10 – 50	.81
	Agreeableness	54	37.57	7.18	25 – 50	10 – 50	.82
	Conscientiousness	54	36.39	5.88	22 – 50	10 – 50	.67
	Neuroticism	54	29.33	7.96	11 – 49	10 – 50	.82
	Openness	54	36.52	6.07	15 – 49	10 – 50	.74
Level of Personality Functioning Scale-Brief Form – (LPFS-BF; Hutsebaut 2016)	Total	54	4.41	2.70	0 – 12	0 – 12	.70
	Self Functioning	54	2.57	1.64	0 – 6	0 – 6	.59
	Interpersonal Functioning	54	1.83	1.54	0 – 6	0 – 6	.60

Table 8.1 continued

Psychopathic Processing and Personality Assessment (PAPA; Lewis, 2014; Lewis et al., 2017)	Total	54	71.64	16.94	33 – 120	29 – 140	.87
	Dissocial Tendencies	54	20.94	5.58	12 – 33	7 – 35	.68
	Emotional Detachment	54	9.80	3.67	4 – 17	4 – 20	.68
	Disregard for Others	54	21.03	7.51	10 – 41	10 – 50	.83
	Lack of Sensitivity to Emotion	54	17.76	5.08	7 – 29	7 – 35	.70
The Social Problem-Solving Inventory-Revised Long (SPSI-R; L; D’Zurilla et al., 2002)	Positive Problem Orientation	54	11.69	4.52	0 – 20	0 – 20	.77
	Negative Problem Orientation	54	16.78	9.70	0 – 40	0 – 40	.91
	Rational Problem Solving	54	41.89	17.11	4 – 76	0 – 80	.94
	Impulsivity/carelessness Style	54	17.44	9.39	1 – 38	0 – 40	.89
	Avoidance Style	54	11.59	6.10	0 – 25	0 – 28	.79

8.3.3 Assumptions testing

This study closely adhered to the four fundamental assumptions underpinning binomial logistic regression, thereby ensuring the robustness of the analysis. Firstly, the dependent variable was dichotomous, thus satisfying the first assumption. Secondly, multiple independent variables, including both continuous and nominal, were incorporated, meeting the second assumption. Thirdly, the study design upheld the third assumption by ensuring independent observations and mutually exclusive and exhaustive categories for the dependent variable and nominal independent variables. The fourth assumption was satisfied by having more than 15 cases per independent variable.

The fifth assumption of logistic regression necessitates the absence of significant outliers. The data was examined for outliers. No significant outliers were identified, as all z-scores and leverage values remained within accepted thresholds. Consequently, the fifth assumption of logistic regression was satisfactorily met. The sixth assumption of logistic regression was met by confirming the absence of multicollinearity among predictor variables. A correlation matrix (Table 8.2) was constructed to explore the relationships among the independent variables. The matrix revealed potential multicollinearity, prompting a more detailed investigation using specific diagnostic metrics. Both Tolerance and the Variance Inflation Factor (VIF) were subsequently employed to further assess the degree of multicollinearity. All Tolerance values were found to be above the accepted threshold of 0.1, suggesting that each predictor possesses at least 10% unique variance not shared with other predictors in the model. Nevertheless, some independent variables displayed VIF values ranging between 5 and 10. Hair et al. (2006) suggest that VIF values exceeding 10 could indicate problematic multicollinearity. However, values closer to 5, although worth scrutiny, may be less alarming. O'Brien (2007) also cautions against an unwavering commitment to specific VIF cut-off points and argues that even higher VIF values might be acceptable in certain scenarios, particularly when the elevation in VIF

results from the inclusion of essential control or dummy variables.

To address the seventh assumption, linearity of logit, multiple 5-point Likert scale items were consolidated into subscale totals, acting on the principles of the Central Limit Theorem. This approach allowed the subscales to be treated as continuous variables in subsequent analysis. Prior to logistic regression, the linearity of the logit assumption was evaluated for each subscale. This crucial step confirms a linear relationship between the predictor variable and the log odds of the response variable. Despite some contention around treating Likert scale subscales as continuous variables, this common research practice was deemed suitable after thorough examination of the subscale score distributions, and the absence of significant skewness or kurtosis. Lastly, the Box-Tidwell procedure was employed to assess the linearity of the continuous variables in respect of the logit of the dependent variable, using a Bonferroni correction. All continuous independent variables were confirmed to be linearly related to the logit of the dependent variable, thus satisfying the requisite assumption for logistic regression.

Table 8.2: Correlations between subscales of measures

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	
1. PAPA Dissocial Tendencies	--																													
2. PAPA Emotional detachment	.19	--																												
3. PAPA Disregard for others	.27**	.34**	--																											
4. PAPA I/o emotional sensitivity	.18	.19	.51**	--																										
5. SAPROF Internal items	-.32**	-.11	-.07	-.01	--																									
6. SAPROF Motivational items	-.26**	-.03	-.08	.01	.61**	--																								
7. SAPROF External items	.07	.00	.01	.13	.30**	.39**	--																							
8. RSA PS perception of self	-.07	-.35**	-.02	-.10	-.04	-.04	.02	--																						
9. RSA PS - perception of future	-.05	-.17	-.05	-.15	.01	.06	.16	.51**	--																					
10. RSA Semi structured style	-.21*	-.14	-.01	.03	.05	.03	.13	.32**	.30**	--																				
11. RSA Social competence	-.06	-.50**	-.18	-.15	.01	.00	.04	.47**	.37**	.27**	--																			
12. RSA Family cohesion	-.04	-.14	-.10	.03	.13	.16	.24*	.13	.16	.14	.18	--																		
13. RSA Social resources	.03	-.17	-.05	.04	.03	.08	.27**	.29**	.40**	.24*	.30**	.51**	--																	
14. IPIP Extraversion	.01	-.37**	-.15	-.12	-.15	-.11	-.08	.42**	.40**	.07	.54**	.01	.16	--																
15. IPIP Agreeableness	-.24*	-.54**	-.49**	-.27**	.09	.13	.04	.18	.13	.13	.36**	.11	.12	.30**	--															
16. IPIP Conscientiousness	-.18	-.30**	-.13	-.08	.05	.07	-.08	.20*	.17	.33**	.38**	.07	.07	.24*	.37**	--														
17. IPIP Emotional Stability	-.06	-.18	-.07	-.11	.01	-.03	-.25*	.42**	.25*	.13	.31**	.03	.09	.30**	.14	.28**	--													
18. IPIP Intellect / Imagination	-.07	-.23*	-.14	.07	.07	.01	-.02	.12	.12	.06	.20*	-.01	.09	.28**	.26**	.12	.00	--												
19. LFPS: Intimacy	.09	.13	.13	.20	-.11	-.01	.10	-.39**	-.32**	-.24*	-.24*	.03	-.09	-.20	-.10	-.28**	-.42**	-.17	--											
20. LFPS: Self direction	.04	.20	.10	.15	-.13	-.02	.11	-.34**	-.26*	-.14	-.24*	.06	.03	-.15	-.05	-.12	-.29**	-.14	.49**	--										
21. LFPS: Self functioning	.07	.17	.12	.20	-.11	.00	.13	-.40**	-.32**	-.21*	-.26*	.06	-.04	-.19	-.09	-.23*	-.41**	-.18	.86**	.75**	--									
22. LFPS: Empathy	.21*	.35**	.45**	.40**	-.10	.06	.23*	-.18	-.14	-.23*	-.19	.03	-.02	-.16	-.30**	-.21*	-.24*	-.15	.37**	.31**	.38**	--								
23. LFPS: Intimacy	.10	.14	.26*	.10	-.04	-.07	.00	-.09	-.10	-.17	-.29**	-.27*	-.34**	-.23*	-.30**	-.21	-.15	-.09	.18	.08	.14	.25*	--							
24. LFPS: IP functioning	.20*	.34**	.46**	.36**	-.10	.00	.14	-.18	-.17	-.22*	-.27**	-.10	-.18	-.23*	-.36**	-.25*	-.24*	-.16	.34**	.25*	.33**	.83**	.59**	--						
25. SPSI- RL: PPO	-.18	-.15	-.09	-.05	-.02	-.05	.01	.34**	.35**	.45**	.28**	.15	.20*	.22*	.27**	.39**	.28**	.15	-.36**	-.18	-.32**	-.24*	-.33**	-.31**	--					
26. SPSI- RL: NPO	.09	-.06	.08	-.02	-.09	-.18	-.15	.39**	.30**	.22*	.19*	-.09	.04	.22*	.02	.21*	.49**	.04	-.41**	-.25*	-.38**	-.22*	-.01	-.17	.27**	--				
27. SPSI- RL: RPS	-.26**	-.26**	-.14	-.05	.11	.09	.05	.27**	.25**	.38**	.34**	.04	.13	.17	.31**	.31**	.16	.15	-.28**	-.19	-.26**	-.21*	-.36**	-.33**	.53**	.19*	--			
28. SPSI- RL: ICS	-.20*	-.19*	-.05	-.06	.08	-.03	-.10	.42**	.25*	.34**	.24*	-.08	.00	.20*	.08	.22*	.43**	.04	-.40**	-.28**	-.38**	-.28**	-.03	-.24*	.29**	.60**	.30**	--		
29. SPSI- RL: AS	-.07	-.01	.02	-.03	.04	-.06	.00	.32**	.18	.39**	.14	-.01	.10	.08	.02	.26**	.36**	.03	-.38**	-.19	-.33**	-.21*	-.11	-.21*	.32**	.58**	.26**	.55**	--	

* p < .05; ** p < .01

8.3.4 Main analyses

Exploring personality traits and critical incident engagement

It was hypothesised that extraversion would positively predict critical incident engagement (*Hypothesis 1*). To test this, a binomial logistic regression was conducted with critical incident engagement as the criterion, and ‘history of engagement’ and ‘no history of engagement’ as the binary outcomes, and extraversion as the predictor. The logistic regression model was statistically significant, $\chi^2(1) = 5.16, p < .023$. The model explained 12.2% (Nagelkerke R^2) of the variance in critical incident engagement and correctly classified 64.8% of cases. Sensitivity was 76.7%, specificity was 50.0%, positive predictive value was 65.71%, and negative predictive value was 63.16%. Therefore, higher scores on extraversion were associated with a greater likelihood of critical incident engagement. Consequently, the null hypothesis was rejected, and the alternative hypothesis, that extraversion would positively predict critical incident engagement, is accepted. Table 8.2 presents the results of the binomial logistic regression analysis assessing the predictive value of extraversion on critical incident engagement.

Table 8.3

Logistic Regression: Extraversion as a predictor of critical incident engagement

	<i>B</i>	S.E.	Wald	<i>df</i>	<i>p</i>	Odds Ratio	95% C.I for EXP(B)	
							Lower	Upper
Extraversion	.09	.04	4.50	1	.034	1.10	1.01	1.20
Constant	-2.63	1.37	3.70	1	.054	.07		

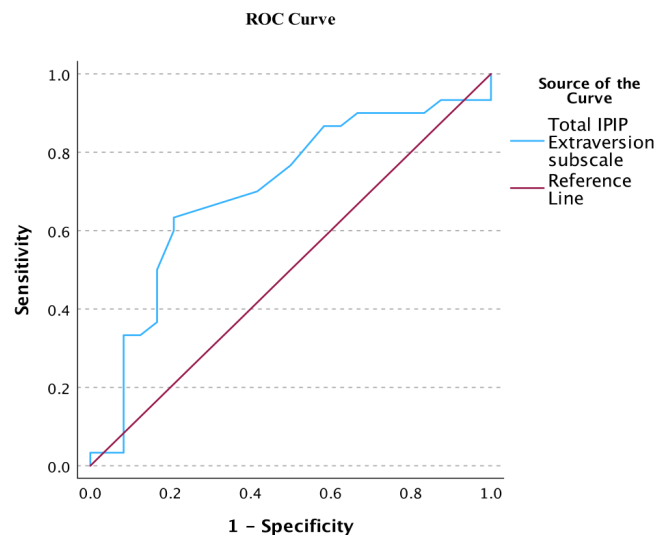
Note: History of critical incident engagement as reported by participant

In examining the predictive performance of the model, the Receiver Operating Characteristic (ROC) curve was utilised. This plots the sensitivity of the model (the true positive rate) against

1-specificity (the false positive rate), across a range of thresholds. An area under the ROC curve (AUC) of 0.700 was observed, with a 95% confidence interval of [0.555, 0.845]. This indicated that the model had a 70% success rate of correctly distinguishing between engagement and non-engagement in critical incidents. According to the guidelines outlined by May & Hosmer (2003), this AUC value indicates an acceptable level of discrimination power for the model.

To further illustrate these results, an ROC curve is presented in Figure 8.1, and which depicts acceptable sensitivity and specificity. As suggested by Royston and Altman (2010), this provides a visual overview of the model's ability to distinguish between the binary outcomes across varying decision thresholds. The representation of the ROC curve also helps to interpret the balance achieved by the model between sensitivity and specificity, thereby providing further insight into overall performance.

Figure 8.1 Extraversion as a predictor of critical incident engagement



It was also predicted that neuroticism would positively predict critical incident engagement. (*Hypothesis 2*). To test this, a binomial logistic regression was conducted again with neuroticism as the predictor. The binomial logistic regression model using neuroticism as the

predictor did not yield statistically significant results, with $\chi^2(1) = 2.41, p = .136$. The model accounted for 5.8% (Nagelkerke R^2) of the variance in critical incident engagement, and correctly classified 55.6% of the cases. Although the model showed a high sensitivity of 100%, the specificity was 0%. The positive predictive value was 55.56%, while the negative predictive value was 0%. Therefore, increased scores on neuroticism did not predict critical incident engagement. Therefore, the null hypothesis was accepted for Hypothesis 2. Table 8.3 presents the results of the binomial logistic regression analysis assessing the predictive value of neuroticism on critical incident engagement.

Table 8.4

Logistic Regression: Neuroticism as a predictor of critical incident engagement

	B	S.E.	Wald	df	p	Odds Ratio	95% C.I for EXP(B)	
							Lower	Upper
Neuroticism	.06	.04	2.22	1	.136	1.06	.98	1.14
Constant	-1.42	1.13	1.59	1	.208	.24		

Note: History of critical incident engagement as reported by participant

Finally, regarding personality traits, it was predicted that dissocial tendencies, as defined by the PAPA (Lewis, 2014; Lewis et al., 2017), would be a significant positive predictor of critical incident engagement (*Hypothesis 3*). To test this, a binomial logistic regression was conducted again with dissocial tendencies as the predictor. The binomial logistic regression model employing dissocial tendencies as the predictor proved to be statistically significant, $\chi^2(1) = 6.65, p = .017$. This model explained 15.5% (Nagelkerke R^2) of the variance in critical incident engagement and accurately classified 61.1% of cases. The model exhibited a sensitivity of 63.3% and a specificity of 58.3%. The positive predictive value was 65.52%, while the negative predictive value was 58.33%. As such, higher scores on dissocial tendencies were associated with a greater likelihood of critical incident engagement leading to the acceptance of the

alternative hypothesis and the rejection of the null hypothesis. Table 8.4 presents the results of the binomial logistic regression analysis assessing the predictive value of dissocial tendencies on critical incident engagement.

Table 8.5

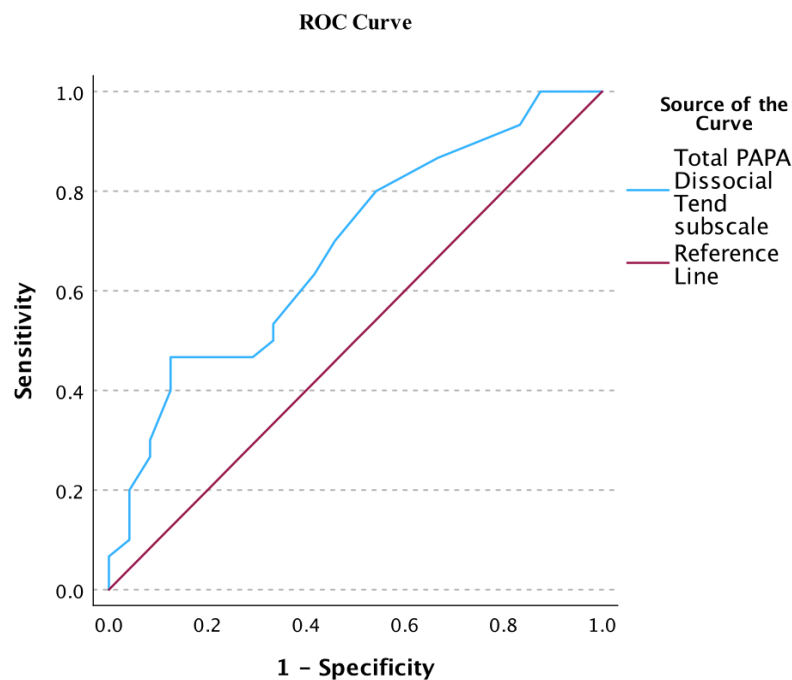
Logistic Regression: Dissocial tendencies as a predictor of critical incident engagement

	<i>B</i>	S.E.	Wald	<i>df</i>	<i>p</i>	Odds Ratio	95% C.I for EXP(B)	
							Lower	Upper
Dissocial Tendencies	.14	.06	5.72	1	.017	1.149	1.03	1.29
Constant	-2.64	1.21	4.74	1	.029	.07		

Note: History of critical incident engagement as reported by participant

The ROC curve was used to determine the model's predictive accuracy, leading to an AUC of 0.684 (95% CI [0.542, .826]). This level of discrimination is deemed suboptimal according to May & Hosmer (2003). A visual representation of the model's performance can be seen in Figure 8.2 below, which presents the ROC curve and its associated level of discrimination.

Figure 8.2 Dissocial tendencies as a predictor of critical incident engagement



Following the significant results found for extraversion and dissocial tendencies, and the lack of significance for neuroticism, all subscales of the IPIP and PAPA were included in a further binomial logistic regression analysis. This was undertaken with the objective of identifying if any other variables from these measures could predict critical incident engagement. A forward likelihood ratio (LR) method was applied for this purpose. The analysis revealed that no other subscale variables from either measure held any predictive significance for critical incident engagement.

Furthermore, an examination of the interaction between the extraversion and dissocial tendencies subscales was undertaken and this yielded a significant result. The model accounted for 26.4% of the variance in critical incident engagement, a marked increase compared to the individual analysis of extraversion (12.2% variance) and dissocial tendencies (15.5% variance). The model also showed balanced sensitivity and specificity, both at 66.7%, surpassing the performance of the individual models. This indicates that examining these

personality traits in conjunction provides a more holistic and accurate prediction of critical incident engagement.

Examining personality functioning and critical incident engagement

In regard to personality functioning, it was predicted that increased impairment of interpersonal functioning would positively predict critical incident engagement (*hypothesis 4*). To test this, a binomial logistic regression was conducted with interpersonal functioning as the predictor. This was not statistically significant, $\chi^2(1) = .017, p = .896$. This model explained no variance (Nagelkerke $R^2 = .000$) in critical incident engagement and correctly classified 55.6% of cases. The model showed a high sensitivity of 100%, but the specificity was 0%. The positive predictive value was 55.56%, while the negative predictive value was 0%. Therefore, increased challenges in interpersonal functioning did not predict critical incident engagement leading to the acceptance of the null hypothesis. Table 8.5 presents the results of the binomial logistic regression analysis assessing the impact of interpersonal functioning on critical incident engagement.

Table 8.6

Logistic Regression: Interpersonal functioning as a predictor of critical incident engagement

	B	S.E.	Wald	df	p	Odds Ratio	95% C.I for EXP(B)	
							Lower	Upper
Interpersonal Functioning	.022	.17	.02	1	.896	1.02	.735	1.42
Constant	.17	.51	.11	1	.745	1.18		

Note: History of critical incident engagement as reported by participant

A binomial logistic regression was completed for all subscale variables from the LPFS-BF after the initial test for interpersonal functioning yielded insignificant results. The purpose was to explore if any variables in this measure had predictive value for critical incident engagement.

A forward likelihood ratio (LR) method was employed. All the subscale variables were excluded from the model due to their non-significance.

Exploring social problem-solving style and critical incident engagement

It was predicted that an impulsive/careless problem-solving approach would be a significant positive predictor of critical incident engagement (*hypothesis 5*). To test this, a binomial logistic regression was conducted again with impulsive/careless problem-solving approach as the predictor. The binomial logistic regression model was not statistically significant, $\chi^2(1) = .08, p = .776$. This model accounted for a negligible 0.2% (Nagelkerke R^2) of the variance in critical incident engagement and correctly classified 55.60% of cases. The model demonstrated a sensitivity of 100% and a specificity of 0%. The positive predictive value was 55.56%, while the negative predictive value was 0%. Therefore, increased scores related to an impulsive/careless problem-solving approach did not predict critical incident engagement leading to the acceptance of the null hypothesis. Table 8.6 presents the results of the binomial logistic regression analysis assessing the impact of impulsive/careless problem-solving approach on critical incident engagement.

Table 8.7

Logistic Regression: impulsive/careless problem-solving approach (ICS) as a predictor of critical incident engagement

	B	S.E.	Wald	df	p	Odds Ratio	95% C.I for EXP(B)	
							Lower	Upper
ICS	.01	.03	.08	1	.776	1.01	.952	1.07
Constant	.08	.58	.02	1	.895	1.08		

Note: History of critical incident engagement as reported by participant

It was further predicted that a positive problem orientation would predict non-engagement in critical incidents (*hypothesis 6*). To test this, a binomial logistic regression was conducted with

positive problem orientation as the predictor. The binomial logistic regression model did not yield statistically significant results, $\chi^2(1) = .00, p = .968$. This model explained no variance (Nagelkerke $R^2 = .000$) in critical incident engagement and correctly classified 55.6% of cases. Despite demonstrating a high sensitivity of 100%, the model had a specificity of 0%. The positive predictive value was 55.56%, while the negative predictive value was 0%. Therefore, a positive problem orientation did not predict non-engagement in critical incidents leading to the acceptance of the null hypothesis. Table 8.7 presents the results of the binomial logistic regression analysis assessing the impact of positive problem orientation on critical incident engagement.

Table 8.8

Logistic Regression: positive problem orientation (PPO) as a predictor of critical incident engagement

	B	S.E.	Wald	df	p	Odds Ratio	95% C.I for EXP(B)	
							Lower	Upper
PPO	.00	.06	.00	1	.968	1.00	.889	1.13
Constant	.19	.77	.07	1	.80	1.22		

Note: History of critical incident engagement as reported by participant

Following the insignificant results obtained from the initial tests for impulsive/careless style (ICS) and positive problem orientation (PPO), a binomial logistic regression was performed on all subscale variables from the SPSI. This was undertaken to explore the potential predictive ability of any variables in this measure for critical incident engagement. A forward likelihood ratio (LR) method was used for this purpose. None of the subscale variables were retained in the model, all being deemed insignificant.

Examining resilience and critical incident engagement

It was hypothesised that increased levels of resilience would be a significant negative predictor of critical incident engagement (*hypothesis 7*). To test this, a binomial logistic regression was

conducted with the subscale predictors from the RSA. The binomial logistic regression model was not statistically significant, $\chi^2(1) = 4.25, p > .05$. This model accounted for 10.1% (Nagelkerke R^2) of the variance in critical incident engagement and correctly classified 55.6% of cases. The model demonstrated a sensitivity of 70.00% and a specificity of 37.50%. The positive predictive value stood at 58.33%, while the negative predictive value was 50.00%. Therefore, resilience did not predict non engagement in critical incidents leading to the acceptance of the null hypothesis. It is notable that this analysis has six independent variables (subscales), and the case-to-independent variable ratio was 9:1, which fell short of the commonly recommended guideline of 15:1. This ratio could potentially compromise the robustness of the results. However, the RSA measure, even under these conditions, did not yield any significant findings. Thus, whilst it is acknowledged that assumption 4 is violated for this analysis, there has been no reliance on these results due to the non-significant outcome.

Table 8.8 presents the results of the binomial logistic regression analysis assessing the impact of the resilience subscales on critical incident engagement.

Table 8.9

Logistic Regression: Resilience subscales as predictors of critical incident engagement

	<i>B</i>	S.E.	Wald	<i>df</i>	<i>p</i>	Odds Ratio	95% C.I for EXP(B)	
							Lower	Upper
Personal strength/perception of self	.04	.09	.21	1	.650	1.04	.88	1.23
Personal strength/perception of future	-.08	.10	.61	1	.437	.93	.77	1.12
Semi-structured style	-.00	.09	.00	1	.973	1.00	.84	1.18
Social competence	.08	.06	1.46	1	.227	1.08	.96	1.22
Family cohesion	.03	.07	.13	1	.724	1.03	.89	1.18
Social resources	-.09	.08	1.39	1	.239	.91	.78	1.06
Constant	1.03	1.66	.39	1	.534	2.80		

Note: History of critical incident engagement as reported by participant

Examining protective/promotive factors and critical incident engagement

Finally, it was hypothesised that increased levels of protective factors would be a significant negative predictor of critical incident engagement (*hypothesis 8*). To test this, a binomial logistic regression was conducted with external, motivation, and internal protective factors as the predictor variables. The binomial logistic regression model yielded statistically significant results. A forward likelihood ratio (LR) method was employed to assess the three subscales for protective factors. During this process, the 'motivation' subscale was excluded due to lack of significance.

The resulting model was substantial, as evidenced by a chi-square value of 50.51 and a Nagelkerke R^2 of .813, thus accounting for over 81% of the variance in critical incident engagement. Notably, both the 'external protective factors' and 'internal protective factors' predictors were significant, with p -values of .008 and .005 respectively. The model correctly

classified 87% of cases. It demonstrated a high sensitivity of 90% and a specificity of 83.30%. Moreover, both the positive predictive value and the negative predictive value were high at 87.10% and 86.96%, respectively. Therefore, both 'external protective factors' and 'internal protective factors' predicted non engagement in critical incidents. This result led to the rejection of the null hypothesis and the acceptance of the alternative hypothesis for Hypothesis 8. Table 8.9 presents the results of the binomial logistic regression analysis assessing the impact of internal and external protective factors on critical incident engagement.

Table 8.10

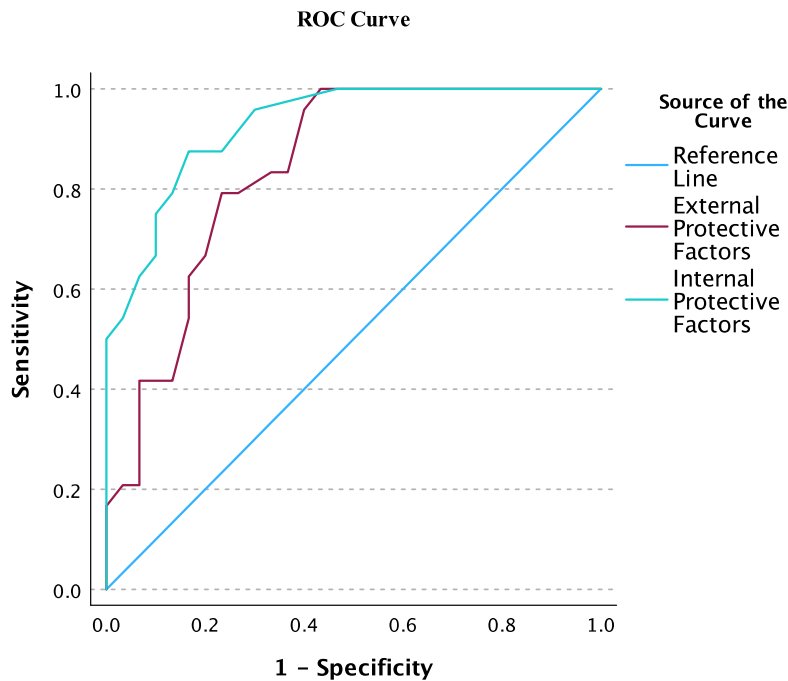
Logistic Regression: internal and external protective factors (PF) as predictors of critical incident engagement

	B	S.E.	Wald	df	p	Odds Ratio	95% C.I for EXP(B)	
							Lower	Upper
Internal PF	-.50	.18	8.03	1	.005	.61	.43	.86
External PF	-.22	.08	6.97	1	.008	.80	.68	.95
Constant	27.00	8.49	10.11	1	.001	5.283E+11		

Note: History of critical incident engagement as reported by participant

The model's predictive accuracy was further assessed using the ROC curve. The AUC for internal protective factors stood at 0.928 (95% CI [0.864, .992]) and for external protective factors at 0.840 (95% CI [0.736, .945]). According to May & Hosmer (2003), these scores represent outstanding and excellent discrimination levels, respectively. A visual representation of this model's performance, depicting the ROC curve and the related level of discrimination, is presented in Figure 8.3 below.

Figure 8.3 Internal & external protective factors as predictors of non-engagement in critical incidents.



8.4 Discussion

This exploratory study found that both extraversion and dissocial tendencies (*pertaining to hypotheses 1 & 3*) predicted critical incident engagement, and when interaction effects were observed, 26.4% of the variance was explained by these variables. As such, over 73% of variance can be explained by other variables. Neuroticism, impairment of interpersonal functioning, an impulsive/careless problem-solving approach, a positive problem orientation, and resilience (*pertaining to hypotheses 2, 4, 5, 6 & 7*) did not reach statistical significance and therefore did not predict likelihood of critical incident engagement in this study. Finally, internal and external protective factors (*pertaining to hypothesis 8*) were found to significantly predict non-engagement in critical incidents, with these accounting for a substantial proportion of the variance (81%). As such, only 19% of variance can be explained by protective/promotive

factors not captured in this study.

In respect of hypothesis one, extraversion significantly predicted critical incident engagement, with this replicating the findings of Ireland et al., (2015) and lending further support for the exploration of specific personality *traits* as opposed to diagnostic constructs. Individuals presenting high in neuroticism have been described as talkative, bold, spontaneous, sociable, dominant, and energetic (McCabe & Fleeson, 2012). McCrae and Costa (2003) posit that there are six facets of extraversion: gregariousness, assertiveness, warmth, activity, excitement-seeking, and positive emotions. Many of these sub facets, such as spontaneousness, dominance, assertiveness, and excitement seeking were also found to be of relevance in the first three studies of this thesis, thus it is possible that particular subdimensions of personality traits are driving critical incident engagement. Echoing the suggestions of Ireland et al., (2015) it is further argued that a more nuanced approach is required when exploring the impacts of personality in this field, and it is argued that this could even extend beyond the overarching Big Five personality dimensions. This would be viewed as a positive step, further supporting the shift from diagnostic constructs to functional aspects of personality dimensions, thus lending itself to a more individualised and person-centred approach.

McCabe and Fleeson (2012) found that extraversion was associated with intentional functional constructs, namely goals, with variation in trait manifestations associated with variation in goals. McCabe and Fleeson (2012) conceptualised personality dimensions as ‘tools’ to achieve goal acquisition, with pursuit of the goal increasing or decreasing the personality state that facilitates goal accomplishment. Put simply, an individual’s state spontaneity may be increased when an individual is trying to alleviate boredom, because this will provide a means of obtaining a replacement (e.g., positive arousal), as captured by General Strain Theory (Agnew, 1992). This goal-orientated explanation is also captured in studies one, two and three of this thesis, and is consistent with Self Determination Theory (Deci & Ryan, 1985) and the Good

Lives Model (Ward, 2002; Ward & Brown, 2004; Ward & Stewart, 2003), as previously discussed. This lends further support for integration of these theories when understanding critical incident engagement.

Extending beyond the explanatory concept of extraversion as captured within the Big Five model, Whole Trait Theory (Fleeson & Jayawickreme, 2015; Jayawickreme & Fleeson, 2017) posits that personality traits are a synthesis of momentary personality states that interact with the context/situation and are underpinned by social-cognitive mechanisms. Whole Trait Theory (Fleeson & Jayawickreme, 2015; Jayawickreme & Fleeson, 2017) highlights a descriptive account of personality traits, noting that a cognitive–affective–motivational system underpins and shapes information processing in specific situations. Whole Trait Theory (Fleeson & Jayawickreme, 2015; Jayawickreme & Fleeson, 2017) therefore accounts for how people can behave in similar ways over time, and how this can fluctuate in different situations, which is considered of key relevance to critical incident engagement. This further emphasises the role of social context in influencing motivation and behaviour, as also captured by Self Determination Theory (Deci & Ryan, 1985). Furthermore, Whole Trait Theory (Fleeson & Jayawickreme, 2015; Jayawickreme & Fleeson, 2017) highlights the less stable constructs that are associated with the *manifestations* of personality traits, which is perhaps more useful in informing interventions aiming to mitigate critical incident engagement.

Relating to General Strain Theory (Agnew, 1992), Whole Trait Theory (Fleeson & Jayawickreme, 2015; Jayawickreme & Fleeson, 2017) also suggests that behaviour-based personality traits can facilitate positive psychological growth in response to adversity and strain (Jayawickreme et al., 2019). Therefore, the exploration of personality traits and subdimensions has highlighted a potential mechanism for critical incident engagement, with Whole Trait Theory (Fleeson & Jayawickreme, 2015; Jayawickreme & Fleeson, 2017) ‘bridging the gap’ between previously presented psychological theory (i.e., General Strain Theory (Agnew,

1992), Self-determination theory (Deci & Ryan, 1985) and the Good Lives Model (Ward, 2002; Ward & Brown, 2004; Ward & Stewart, 2003), and trait manifestation underpinned by social-cognitive aspects representing as potential catalysts. As such, when considering the functional aspects of personality dimensions and associated impacts on critical incident engagement, future research should capture both explanatory and descriptive aspects of personality traits, further considering how manifestations may be impacted by individual goals and various social cognitions and situations, as outlined by the Whole Trait Theory (Fleeson & Jayawickreme, 2015; Jayawickreme & Fleeson, 2017). This may account for why a minority of individuals repeatedly engage in critical incidents, also highlighting the salience of external factors, such as the social environment. Based on Whole Trait Theory (Fleeson & Jayawickreme, 2015; Jayawickreme & Fleeson, 2017), people can act differently in different situations, which may also account for challenges faced to date in regard to the development of a model of understanding. Further research is required to determine what social-cognitive mechanisms may be motivating critical incident engagement, and indeed serving as protective/promotive factors.

Extraversion is captured in Eysenck's PEN theory of criminality (Eysenck, 1970), which posits that delinquency is primarily based on three main dimensions of personality: Psychoticism (P), Extraversion (E), and Neuroticism (N). This formed the basis of hypotheses 1, 2 and 3 in this study, which predicted that dissocial tendencies (related to psychoticism), extraversion and neuroticism would predict critical incident engagement. Whilst this is a dated theory, it was considered worthy of consideration as propensity for delinquency is considered to be an interplay of dispositional characteristics and environmental factors, which is consistent with the findings throughout this thesis. Nevertheless, whilst this study found dissocial tendencies and extraversion to be a significant predictor of critical incident engagement, this was not the case for neuroticism. It was surprising that neuroticism did not significantly predict critical

incident engagement in this study, particularly given the salience of emotional instability as core themes in studies 1, 2 and 3. It is possible that, as argued above, there is greater merit in exploring the sub traits of neuroticism, such as impulsivity, emotional instability, and distress intolerance, rather than blanket personality dimensions such as neuroticism when attempting to understand factors underpinning critical incident engagement. It is also possible that the findings of this study were impacted by the forensic psychiatric population sampled, who may experience challenges regarding insight and an increased tendency for impression management, thus potentially impacting self-reported responses in this domain. As such, it may be of value to further explore the role of neuroticism on critical incident engagement in other forensic and non-forensic populations.

It is perhaps less surprising that dissocial tendencies, as measured by the PAPA (Lewis, 2014; Lewis et al., 2017) significantly predicted critical incident engagement. Dissocial tendencies are often associated with psychopathy and refer to the interpersonal and social aspects of psychopathic behaviour (Lewis et al., 2017). Dissocial tendencies include a pattern of behaviour characterised by callousness, lack of empathy, manipulateness, deceitfulness, and a disregard for the rights and feelings of others (Lewis et al., 2017). Individuals with dissocial tendencies may exhibit a tendency to exploit and take advantage of others, engage in impulsive and aggressive behaviour, and have difficulty forming and maintaining meaningful relationships (Lewis et al., 2017). It is argued that dissocial tendencies may relate to the subjective experience of strain, as captured by General Strain Theory (Agnew, 1992), and one potential predisposing factor of this could be lack of relatedness with others, as outlined by Self-determination theory (Deci & Ryan, 1985), yet this would require further exploration. The findings related to dissocial tendencies may be explained, in part, by the sample utilised, where a greater representation of dissocial tendencies is arguably more likely given the forensic population sampled. This may also explain why critical incidents are typically viewed as acts

of delinquency or criminality in forensic services. Nevertheless, the results of this study suggest that dissocial tendencies are one of many factors contributing to critical incident engagement, and the likelihood of engagement is increased when dissocial tendencies are combined with other personality traits and subdimensions.

Contrary to the findings of Ireland et al., (2015) agreeableness was not found to be related to engagement in critical incidents. This did not form a prediction of the current study, as agreeableness did not emerge as a theme in studies one, two, and three. A potential explanation of previous findings by Ireland et al., (2015) could be a greater representation of group-perpetrated critical incidents in their sample, yet this is not possible to determine. In support of previously presented arguments outlining a rationale for exploring sub facets of personality dimensions, it is possible that the goals of connectedness and co-operation, which are characteristics of agreeableness, were underpinning critical incident engagement in the study by Ireland et al., (2015). Therefore, in addition to exploring the sub traits of personality dimensions, it is further recommended that future research explores potential differences related to the type (e.g., hostage, barricade, and protest) and nature of critical incident (e.g., group vs individually perpetrated incidents).

Despite predictions, resilience was not found to predict critical incident engagement. This may be explained in part by the methodology, as it would likely have been challenging for individuals to rate their resilience at the time of critical incident engagement, notwithstanding challenges related to insight within the research population. However, this may also be explained by existing research, which highlights that the presence of protective factors does not necessarily result in resilience in all cases (Fleming & Ledogar, 2008), particularly where increased vulnerability factors are present. This may explain the finding that protective factors predicted non-engagement with critical incidents, yet resilience did not predict engagement.

The perhaps most salient finding of study four is the association between protective/promotive factors and non-engagement in critical incidents. This has provided justification for the exploration of why the minority of individuals engage in critical incidents, yet the majority of individuals do not. It is recognised that exploring strengths and inhibitory factors is considered somewhat counterintuitive when considering critical incident engagement, yet this is considered fundamental to mitigating engagement, and is much more aligned with the strengths-based approach utilised in other aspects of current forensic practice. A substantial amount of variance (81%) was explained by the protective factors captured within this study and where this captured a range of internal and external protective factors, that is, protective factors related to both the individual and environment. This is the first known study to explore the role of protective factors in critical incident engagement, thus more research is undoubtedly required in this area.

It is likely that other protective factors are relevant to critical incident engagement, and these may comprise social-cognitive factors, such as inhibitory thoughts, and which were not captured in this study. This lends further support for an individualised approach when understanding critical incident engagement, as such protective/promotive factors are likely to be specific to the individual. Moreover, protective factors can have variable effects depending on the level of risk or adversity, with greater influence observed as levels of risk/adversity increase (Masten et al., 2021), and which may also be situation/context specific. It is argued that protective/promotive factors are also related the aforementioned concept of goal acquisition, thus individuals may be less likely to engage in critical incidents when the skills, resources, and opportunity to achieve personal goals through legitimate means are present. The findings suggest that the presence of protective/promotive factors drives people away from critical incident engagement, whereas absence directs people towards such behaviours. Nevertheless, further research is required to determine the potential presence of interactive

protective factors, as this extends beyond the scope of the current research.

The findings regarding protective/promotive factors can also be explained in terms of General Strain Theory (Agnew, 1992). For example, internal and external protective factors, such as self-control (internal) and adequate professional support (external), may serve as buffers against subjectively and objectively experienced strain. As such, relevant resources may be utilised to support effective management, removal, and/or replacement of experienced strain. Moreover, this may be more closely aligned with the acquisition of prosocial goals, such as effective coping, than antisocial goals such as exacting revenge or causing disruption. The findings regarding protective factors can also be viewed through the lens of Self-determination theory (Deci & Ryan, 1985), as those with a perception of increased autonomy and control over their lives are more likely to be proactive and effective in their response to strain and adversity. This provides further support for considering the role of the social environment, particularly as the environment can both support and inhibit autonomy, and this has been found to relate to critical incident engagement (Ireland et al., 2014).

8.5 Limitations

The sample size ($N = 54$) in this study was relatively small, not least given the number of variables examined and the potential challenges this can pose in respect of statistical power. Nevertheless, the assumptions required for analysis were not violated and there was a sufficient number of cases per predictor variable, as per highly influential guidance outlined by Peduzzi et al., (1996), and Vittinghoff and McCulloch (2007). There is surprisingly little research on sample size for logistic regression (Hosmer & Lemeshow, 2000) and this is a complex problem. Existing guidance suggests that where there is no previous research in an area, and there is nothing known about the phenomenon studied, conventional sample size formulas cannot be applied (Hosmer & Lemeshow, 2000). As such, whilst the sample size is relatively small, it was sufficient for analytical purposes and lower sample sizes are a common feature of applied

research within a specialised population.

A further limitation of this study is that it relied on self-report regarding history of critical incident engagement, demographic information, and responses to the questionnaires. As a result, there is potential that responses were incorrectly grouped based on history/no history of critical incident engagement. Despite the efforts of the researcher to provide clear and accessible definitions of critical incidents at the recruitment stage, there is potential that participants did not recognise previous behaviour as meeting the criteria of a critical incident. This may have been further compounded by the definitional challenges outlined in chapter two, and the nature of the research population, which arguably may experience greater challenges with insight. Impaired or reduced insight is frequently encountered where there is presence of various psychopathologies (Thirioux et al., 2020), and whilst the research approach included the Responsible Clinician (RC) deeming the individual appropriate to engage in the study, there was no consideration of whether the individual demonstrated sufficient insight. Nevertheless, this is a challenge in all applied research within specialist populations and even if a judgement on insight could have been provided, it would not have been appropriate to exclude individuals from participating on this basis. Moreover, given the often-dynamic nature of psychopathology and insight, nor would it have been possible to determine if insight extended to the timeframe of critical incident engagement.

It is also possible that those more likely to engage in critical incidents were not included in the research due to not being considered sufficiently stable by their RC at the time of data collection. As such, there is potential that the sample were disproportionately selected by the process and expectations of the research. Individuals may not have been provided clearance to approach from their RC due expectations that the individual would find the methodological approach challenging, or perhaps due to risk, acuity, and/or capacity related factors. Whilst these are clear and ethical grounds for exclusion, there is potential that the quality of the

findings was somewhat impacted by limited representativeness and data from important populations may have been overlooked. Additionally, expectations for a certain outcome, i.e., ability to draw upon certain skills or resources, can bias the selection process towards individuals who are more likely to produce desired results, thus compromising the diversity and generalisability of the sample.

It is also possible that participants provided inaccurate information regarding their critical incident engagement. It was beyond the scope of the current research study to verify information provided by participants, for example by consulting hospital records; moreover, this would offer little value where critical incidents were perpetrated outside of the individuals current setting. Nevertheless, whilst it is recognised that additional approvals would be required, more reliable comparisons could have been made had a triangulation approach been utilised, where access to reported history formed part of the research design. Furthermore, due to the shared characteristics of participants and the forensic psychiatric nature of the research population, those who did not report a history of critical incident engagement cannot be described as a control group as such, thus inclusion of this group is for purposes of comparison, albeit with caution.

Another key limitation of this study was the requirement for those with a history of critical incident engagement to complete the strengths and protective factors measure retrospectively, based on the six months *prior* to critical incident engagement. Whilst anchoring techniques were used by the researcher, such as providing the dates for consideration and offering frequent reminders of this, it was not possible to determine if recall was accurate. It is arguably more likely that memory degradation is more prevalent within the research population, who experience various psychopathologies. Related to this, as the other utilised questionnaires were validated measures, it was not possible to ask participants to base responses on a particular timeframe. Whilst this is less problematic for more stable constructs, such as personality traits,

this does pose challenges in respect of dynamic and multifactorial constructs/processes, such as resilience, as discussed in chapter three. This is arguably more problematic in the current research population as individuals reside in forensic psychiatric settings where there is greater emphasis on interventions aiming to enhance protective and promotive factors, such as personal strengths and resilience, as part of recovery and rehabilitation aims. Moreover, there is arguably an increase in factors that promote the implementation of strengths and resilience, such as enhanced social support, continuous availability of professional support, and for some individuals, increased environmental stability (e.g., Masten et al., 2021). Nevertheless, the challenge of reliably measuring dynamic constructs potentially impacting critical incident engagement is recognised, not least in applied settings and where the priority is the safety and psychological wellbeing of all stakeholders.

A further methodological limitation of this study is the presence of the researcher during data collection, and which may have resulted in researcher effects, such as social desirability bias. All participants were offered the opportunity to complete the study independently, yet no participants opted to do so, and instead utilised the support available from the researcher in completing the study. Most ($n = 48$, 88.89%) participants opted for each item of the questionnaires to be read aloud to them, and they provided their responses by consulting the response options on a laminated card. There is a potential, particularly given the nature of some of the research topics (i.e., dissocial tendencies), that participants provided responses that were more aligned with social norms as opposed to their true experiences or opinions. Nevertheless, dissocial tendencies emerged as a significant predictor, thus if this was the case then effects can be assumed to be even stronger than those identified in the results. Moreover, whilst participants were not required to provide any specific details, the potentially criminal behaviours associated with critical incident engagement may have further exacerbated social desirability bias for responses overall. Whilst there were efforts to reassure participants that

their responses would not be shared with members of their care team, nor would they have any influence on decisions pertaining to care and treatment provision, there is also potential that responses were impacted by impression management. It is arguable that there was an increased likelihood of this given the research population, where there is often a requirement to demonstrate progression through the treatment pathway and improved functioning. This may have posed more significant challenges for responses on some of the measures, for example the LPFS - BF, which captures self and interpersonal functioning.

Whilst the LPFS - BF broadly captures personality functioning, and this is more aligned with contemporary diagnostic approaches whereby more focus is awarded to impacts on functioning than diagnostic constructs, the measure utilised in this study could have been more robust. An updated version of the LPFS – BF has been published more recently, the Level of Personality Functioning Scale-Brief Form 2.0 (LPFS-BF 2.0; Weekers et al., 2019). This screening tool captures *severity* of self and interpersonal dysfunction according to the DSM-5 Alternative Model for Personality Disorders and the ICD-11 Classification of Personality Disorders, thus enabling a more nuanced understanding of *severity and* impacts on functioning. Not only is this screening tool reportedly more valid and reliable than its predecessor (e.g., Bach & Hutsebaut, 2018), it is argued that utilisation of this measure may have offered greater insight into the potential role of personality functioning on critical incident engagement. Furthermore, there are alternative measures that were not selected for use in this study due to the length of the scales and the potential impact that this may have had on engagement levels. Examples include the 80-item Level of Personality Functioning Scale–Self-Report (LPFS-SR; Morey 2017) and the 132-item DSM-5 Levels of Personality Functioning Questionnaire (DLOPFQ; Huprich et al., 2018). Whilst the LPFS- BF was retained for analysis in this study as internal consistency for the overall measure was noted to be acceptable ($\alpha = .70$), the coefficient values of the subscales of the LPFS were $\alpha = .59$ (self-functioning) and $\alpha = .60$ (interpersonal

functioning) respectively, thus not reaching the threshold of acceptable, as outlined by Konting et al., (2009). Whilst personality functioning was not found to predict critical incident engagement or non-engagement, this may have been owing to the robustness and nature of the measure utilised, which arguably has greater utility as a clinical screening tool. Future research would likely benefit from the use of a more comprehensive measure such as the LPFS- SR or DLOPFQ, and which may also enable greater consideration of adaptive functioning.

The inclusion of factors associated with adaptive functioning, such as strengths and protective factors, is considered a key strength of this research. Nevertheless, it is notable that the self-report measure of strengths and protective factors was developed by the researcher and therefore not a validated measure. Development of this measure was, however, based on items included in the Structured Assessment of Protective Factors for Violence Risk (SAPROF: de Vries Robbé & de Vogel, 2014), with permission of the lead author. The wording of the items was alternated between negatively and positively orientated to reduce acquiescence response bias, yet it is notable that the SAPROF measure is designed to be strengths-based, and as such capturing the *absence* of protective factors is not the core aim of the original assessment. Moreover, the SAPROF is specifically designed to capture protective factors for violence, and whilst the use of violence is a common feature of critical incidents, it is not possible at this stage to determine ecological validity, or indeed if additional protective factors may also be relevant to critical incident engagement. Establishing protective factors associated with critical incident engagement should without doubt be addressed in future research.

8.6 Concluding comments

Study four builds upon the findings of the three previous studies in this thesis, offering further support to the notion that personality traits are relevant to critical incident engagement. The findings lend further support for the link between critical incident engagement and

extraversion, supporting the findings of Ireland et al., (2015). It has also extended the scope of personality traits of relevance, highlighting the link between critical incident engagement and dissocial tendencies, as measured by the PAPA (Lewis, 2014; Lewis et al., 2017). Whilst further research is required to determine the specific mechanisms underpinning the link between personality traits and engagement in critical incidents, and indeed other personality traits that may be of relevance, this study has highlighted additional variables that warrant further exploration.

Study four adds to existing literature as it is the first known study to explore the role of protective/promotive factors on critical incident engagement. To date, there has been a limited focus on risk factors for critical incident engagement, yet the findings of this study emphasise the salience of widening the scope to also explore inhibitory factors, with these accounting for both internal and external variables. The findings of study four lend further support for the integration of General Strain Theory (Agnew, 1992), Self-Determination Theory (Deci & Ryan, 1985), and the Good Lives Model (Ward, 2002; Ward & Brown, 2004; Ward & Stewart, 2003) when understanding critical incident engagement. Theoretical application has also been expanded in study four, with the integration of Whole Trait Theory (Fleeson & Jayawickreme, 2015; Jayawickreme & Fleeson, 2017) considered key to further understanding the social-cognitive mechanisms of critical incident engagement. The findings of study four highlight the importance of capturing dimensions of personality traits, as well as accounting for situational and contextual factors when developing a model of understanding pertaining to critical incident engagement. Moreover, the findings emphasise the key role of protective/promotive factors in mitigating critical incident engagement, and this is central to informing person-centred prevention and management approaches. The findings lend further support for multi-factorial nature of critical incidents, and where engagement appears to be an aggregate construct comprising of individual (internal) and socioenvironmental (external) factors.

CHAPTER 9. GENERAL DISCUSSION

9.1 Structure of this chapter

The final chapter of this thesis presents a discussion of the findings in the context of existing literature and theory. The findings of the four studies are captured within a preliminary Integrated Model of Critical Incident Engagement (IMCIE), which is empirically driven and underpinned by several theories that have been evaluated in this thesis. Practical application is then considered, including suggestions of how the model could be used to challenge problematic perceptions and assist the prevention and management of critical incident engagement. Finally, the strengths and limitations of this thesis are discussed, and potential directions for future research are highlighted.

9.2 Overall findings

The aim of this PhD research was to understand the factors impacting engagement in critical incidents within a forensic context, thus addressing the paucity of available literature in this field (Crighton, 2015; Hempenstall & Hammond, 2018). The findings from all studies indicate that there are a range of complex, multifaceted, and interacting factors impacting critical incident engagement in a forensic context, thus lending further support for existing research that has also found this to be the case (e.g., Hempenstall & Hammond, 2018; Ireland et al., 2014). The findings of the current research further build on this notion, highlighting that internal and external factors interact at both an individual and systemic level. This suggests that, to date, there has been a poor understanding of factors underpinning critical incident engagement within forensic contexts, and the salient role of protective/promotive factors and socioenvironmental factors has been largely disregarded. The overall findings therefore reveal that there has been a narrow focus on behavioural responses and situational and operational factors (Bond, 2020; Cummins, 2007; Neller et al., 2021). This has arguably resulted in an

understanding that has indeed been hostage to a lack of empirical and theoretical understanding (Michaud et al., 2008) and limited recognition of the nuanced factors impacting engagement.

The findings of the current research suggest that there is little value in conceptualising critical incident engagement in simplistic terms, such as instrumental or expressive (Lipsedge, 2004; Miron & Goldstein, 1979; Vecchi et al., 2005), or a crisis or conflict (Ireland et al., 2015). Moreover, whilst it may be helpful to understand different typologies or categories of critical incidents, it must be recognised that this offers little in the way of understanding the factors that may motivate critical incident engagement, and subsequently this has limited value in assisting management and prevention. It is suggested that aligning understanding with more traditional conceptualisations only serves to exacerbate the longstanding challenges in this field, and where there has been an overfocus on behavioural manifestations and consequent conceptual difficulties related to exclusively categorising critical incidents.

The overall findings of this research included the identification of interacting constructs, namely internal and external vulnerability factors, internal and external motivating factors, positive and negative social-environmental factors, and protective/promotive factors. These findings further build on existing findings, such as those of Ireland et al., (2014), and additional factors relevant to forensic contexts, such as restriction of access to rights and activities, have also been highlighted. It is suggested that the methodology employed in this research, specifically the completion of functional assessments, has made it possible to identify the range of functions of critical incident engagement, and which were previously not readily apparent (Petherick & Turvey, 2008). This has informed the development of an empirically driven model relating to factors that can motivate engagement in critical incidents, thus increasing the opportunity for a proactive approach to management and prevention. Nevertheless, the research found that numerous vulnerability and protective/promotive factors can present simultaneously, and which was also identified by Ireland et al., (2014), thus further reinforcing

the need for individualised application of the findings when understanding critical incident engagement. It is also important to recognise that there may be additional factors associated with different types of critical incidents across context and setting, and which extends beyond the scope of the current thesis. Notably, the current findings do not claim to present a full and comprehensive overview of factors underpinning critical incident engagement and this would not be possible owing to the idiosyncratic nature of engagement.

The completion of functional assessments nevertheless enabled specific consideration of individual characteristics and attributes that influence behaviour and functioning (organism variables), which in turn informed the identification of internal and external vulnerability factors. It was found that several vulnerability factors can present for individuals engaging in critical incidents, and it is further noted that these may fluctuate across situation and context. As such, it is an insurmountable task to identify *all* potential vulnerability and protective factors related to critical incident engagement, and this would offer very little value from an applied perspective. For example, it would be fruitless to identify all inhibitory cognitions relating to critical incident engagement, as these are likely to vary significantly across individuals and situations. As such, there is applied value in exploring the potential role of vulnerability factors that impede or impact on functioning, such as presenting symptomatology, challenges with coping, regulating emotions and problem-solving, negative/anti-social beliefs, and dissocial tendencies, and which can then be addressed via targeted intervention. On a similar note, protective factors that may enhance functioning at an interpersonal and intrapersonal level appear of most relevance to mitigating critical incident engagement, such as adaptive skills/resources, self-efficacy, positive self-identity, and sense of purpose and belongingness.

Moreover, attention should be awarded to the *impact* of vulnerability and protective/promotive factors for the individual, as this is likely to enhance understanding of the individual's specific pathway to engagement in a critical incident. For example, whilst '*past experience of trauma*'

was identified in this thesis as a vulnerability factor, the presence of this alone cannot determine the specific *impact* on the individual and associated behaviour. Moreover, ‘*past experience of trauma*’ may present a protective mechanism or source of positive psychological adaptation, particularly in the context of post-traumatic growth and resilience (Dell’Osso et al., 2022). Similarly, some identified protective factors, such as psychological resilience, which is defined as the “*process of adapting well in the face of adversity, trauma, tragedy, threats or even significant sources of stress*” (American Psychiatric Association, 2013) , are dependent on the presence of a vulnerability factor. Furthermore, the impacts of vulnerability protective/promotive factors may vary depending on the *degree* and *impact* of risk or adversity (Masten et al., 2021), and as previously discussed this will vary significantly across individual and context. As such, future research should focus on the identification of *interactive protective factors*, where the presence of a protective factor can decrease the probability of maladaptive behaviour in the presence of a risk factor, but the probability of maladaptive behaviour does not decrease in the presence of a protective factor when a risk factor is absent (Farrington et al., 2016).

Whilst a proposed protective and vulnerability pathway towards critical incident engagement has been identified, the findings demonstrate the diversity and complex relationship between presenting factors, with this potentially accounting for existing challenges in delineating vulnerability and protective/promotive factors. As such, the findings provide further support for an individualised and person-centred approach when understanding critical incident engagement, which may be facilitated by application and consideration of the salience of the identified factors for the individual. This is important as factors can serve to both increase and decrease risk of critical incident engagement, depending on the individual, situation, and context. It is recognised that this cannot necessarily be achieved during the context of critical incident engagement, yet the retrospective exploration of interacting vulnerability and

protective factors may support the addressing of chronic critical incident engagement and assist the identification of themes/patterns, which may form the basis of targeted intervention to address future engagement.

The findings of this research also indicate the presence and interaction of internal and external factors in underpinning critical incident engagement. Whilst a combination of internal and external factors has been briefly noted as relevant to some types of critical incidents, such as prison riots (e.g., Useem & Goldstone, 2002), this is the first known research to consider the potential interaction between internal and external factors more broadly. Moreover, it is the first known research to delineate internal and external factors relating to variables associated with critical incident engagement, such as motivating factors. The findings of this research suggest that a complex interplay of overlapping internal and external contributory factors is relevant to engagement in critical incidents, and it appears that individual and/or collective responses are of key relevance. As such, whilst several internal and external factors may be relevant to critical incident engagement, it is the individual responses to such factors that are of key importance.

The findings of this research highlight the importance of considering the identified vulnerability and protective factors in terms of impacts on functioning. This will facilitate the avoidance of potentially stigmatising and reductionist conceptualisations of factors related to engagement, such as '*mental health precipitated incidents*' (Alexander & Klein, 2010). Whilst no comparisons were made based on diagnosis, as the aim of the thesis was to explore the wider range of issues related to functioning, it remains the case that reliable observations cannot be made based on the influence of psychopathology on critical incident engagement (Lewis & Ireland, 2019). Nevertheless, based on the findings of this thesis, this should not form a core aim of research in this area. The current findings revealed that there is greater merit in considering specific factors that impact on functioning, and where this may also support the

identification of factors related to adaptive functioning, and which may be positively or negatively reinforced by the environment.

The role of positive and negative reinforcing factors has received very little attention in the context of critical incident engagement (Hughes et al., 2018) and unfortunately the current findings have offered little in the way of improving understanding regarding reinforcing factors. Challenges in identifying potential positive and negative reinforcing factors in this research, such as the specific influence of professional and social support, are likely owing to the dynamic and interchangeable nature of reinforcing factors, which are well captured in the literature (e.g., Baron & Galizio, 2005; Sidman, 2006). Reinforcing factors are more transient constructs which may be specific to the individual and context, thus it is likely that these will be difficult to capture in a model of understanding. Nevertheless, reinforcing factors are pertinent to prediction and effective management of critical incidents, thus consideration of reinforcing factors undoubtedly requires further attention.

The research findings allow for a more comprehensive and nuanced understanding of factors underpinning critical incident engagement, and whilst further work is required to determine what other factors may be of relevance across different contexts and populations, a potential framework of understanding may facilitate this process. The findings of the current research offer a basis upon which individualised risk assessment and intervention planning can potentially be formulated, which is a fundamental component of research in this field (Fritzon et al., 2014). This is further discussed in section 9.5 where practical applications are captured. The theoretical context of the research findings is discussed hereafter.

9.3 Theoretical context

As discussed in the introductory chapter, there has been limited application of theory regarding factors underpinning critical incident engagement overall (Grubb, 2010). It remains the case that no single theory can sufficiently account for critical incident engagement in a forensic context. As such, this thesis utilised an integrative and inter-relational approach, applying salient factors from several psychological and criminological theories to account for the complexities of critical incident engagement, thus accounting for vulnerability, protective/promotive, and socioenvironmental factors. The introduction chapters and findings of this thesis suggest that General Strain Theory (Agnew, 1992), Self-determination Theory (Deci & Ryan, 1985), Cognitive Evaluation Theory (Deci, 1975), and the Good Lives Model (Ward, 2002; Ward & Brown, 2004; Ward & Stewart, 2003) and Differential Opportunity Theory (Cloward & Ohlin, 1960) may be of relevance in enhancing understanding of the specific mechanisms by which critical incident engagement may occur within forensic contexts. Combined, these theories view critical incident engagement through the lens of meeting perceived or underlying core needs, and where engagement may serve the function of enhancing autonomy, relatedness, and competence, thus presenting a mechanism of coping with, or removing strain. When interacting with the social context/environment, this understanding may account for the potentially increased prevalence of critical incident engagement in forensic settings, and where the opportunity to legitimately achieve goals may be thwarted. The findings in this thesis are critically evaluated and discussed in the context of the above theories. Consideration is given to whether there is sufficient evidence to support the integration of each theory when understanding critical incident engagement.

General Strain Theory (Agnew, 1992)

General Strain Theory (Agnew, 1992) offers improved understanding of *some* factors

motivating critical incident engagement. This theory accounts well for the factors associated with the experience of subjective and objective strain, which are common characteristics of forensic contexts. The findings in this thesis indicated that General Strain Theory (Agnew, 1992) was of relevance to critical incident engagement, particularly in the context of unjust strain, and where strain resulted from deprivation of positive stimulation or experience of negative stimulation due to environmental conditions (Agnew & Brezina, 2019). The experience of difficult emotions was found to often precede engagement in critical incidents, which supports the notion that the experience of negative emotion results in strain (Agnew & Brezina, 2019), which in may serve as a catalyst for engagement in critical incidents.

It is notable that strain has been identified as relevant to engagement in security incidents in high secure male psychiatric care on a broader scale (i.e., Ireland et al., 2019). The McKenna Framework for understanding Incidents in Secure Settings (M-FISS) highlights the salience of strain, particularly in respect of relational elements, and outlines four core drivers, namely (1) poor-quality relationships/lack of cohesion, (2) lack of meaningful activities, (3) perception of injustice, and (4) poor staff interpersonal style (Ireland et al., 2019). Increase in negative emotion was found to mediate the relationship between the four identified drivers and engagement in security incidents. Nevertheless, understanding mediating factors impacting the association between the identified variables and critical incident engagement extends beyond the scope of this thesis, and whilst it is not currently possible to determine, there is potential that strain related to negative emotion presents a mediating influence on certain variables identified in this thesis. The findings of this thesis capture the core components of the M-FISS model (Ireland et al., 2019), also highlighting the salience of socioenvironmental factors, yet also build on existing findings via the identification of protective factors and specific strain related factors that underpin critical incident engagement specifically. The application of General Strain Theory (Agnew, 1992) has therefore been found to be of key importance when

understanding engagement of security related incidents at both a broader and more specific level, and this highlights functions extending beyond the subversion of security and misconduct related aims.

General Strain Theory (Agnew, 1992) is concerned with the association between strain and misconduct, and as previously noted, it is not helpful to view critical incident engagement as a form of delinquency. Nevertheless, General Strain Theory (Agnew, 1992) does highlight *internal* factors that are relevant to critical incident engagement within the current research, such as impaired conventional coping skills and resources, amoral beliefs, reduced problem-solving abilities, poor social skills, violence supporting attitudes and beliefs, lack of a sense of community belonging, and low self-efficacy (Agnew & Brezina, 2019). *External* variables related to General Strain Theory (Agnew, 1992) were also identified in the findings, such as limited support and a lack of community belonging. The current findings support the position of General Strain Theory (Agnew, 1992), where engagement in maladaptive behaviour is rarely the result of the experience of a single factor and is more likely to be a result of a confluence of *several* variables (Agnew & Brezina, 2019).

The findings of all studies highlighted the potential application of General Strain Theory (Agnew, 1992), yet it is noteworthy that this did not account for all motivations identified in the thesis, nor does it account for individual differences. As such, in isolation General Strain Theory (Agnew, 1992) does not offer a comprehensive understanding of the factors associated with critical incident engagement, yet it certainly offers a theoretical basis for factors associated with strain, and which was found to be central to critical incident engagement in all four studies. Indeed, General Strain Theory (Agnew, 1992) has been used in a solution-focussed manner to identify strategies in addressing maladaptive behaviour, and to explain individual differences across the life trajectory (Agnew & Brezina, 2019). Viewing critical incident engagement through the lens of General Strain Theory (Agnew, 1992) not only humanises engagement in

critical incidents, but it also arguably holds the key to addressing and minimising future engagement. This also reflects the wider person-centred movement in psychology and psychiatry, which has seen a shift from focus on “what’s *wrong* with you” to “what has *happened* to you?”. However, and is also captured in broader research pertaining to security incidents (i.e., Ireland et al., 2019), General Strain Theory (Agnew, 1992) does not provide an explanation as to what strain related factors should be accounted for, thus the integration of motivation theories, such as Self-determination Theory (Deci & Ryan, 1985) and Cognitive Evaluation Theory (Deci, 1975) may enhance understanding in this regard.

Self-determination Theory (Deci & Ryan, 1985) and Cognitive Evaluation Theory (Deci, 1975).

Self-determination Theory (Deci & Ryan, 1985) was found to be relevant to critical incident engagement and offers explanations beyond strain that may motivate perpetration, such as an innate drive for autonomy, competence, and relatedness. Ireland et al., (2014) stated that the likelihood of critical incidents is higher when sense of control and autonomy is lost or reduced. These findings were replicated in the current research, thus lending further support for the inclusion of Self-determination Theory (Deci & Ryan, 1985) when understanding factors impacting critical incident engagement. As outlined by Self-determination Theory (Deci & Ryan, 1985), the motivations identified in this research highlighted critical incident engagement as a function of increasing control, demonstrating competence to others, and enhancing relatedness with others. Loss of control/autonomy was also identified as a vulnerability factor, and a sense of relatedness and community belonging was found to be a protective factor. Such motivation-based factors may form the basis for strain, particularly where the environment and/or social environment presents barriers to the three core drivers: autonomy, competence, and relatedness. Conversely, environments that foster these core drivers may serve a protective function for critical incident engagement. Cognitive Evaluation

Theory (Deci, 1975), a sub-theory of Self-determination Theory (Deci & Ryan, 1985) highlights the salience of the social environment in facilitating intrinsic motivation. Consistent with Cognitive Evaluation Theory (Deci, 1975), it was found that a positive social environment serves a protective function for critical incident engagement. Moreover, negative environmental factors were found to be associated with decreased autonomy, competence, and relatedness, thus resulting in strain, and increasing vulnerability for critical incident engagement as a means of addressing this.

Nevertheless, Self-determination Theory (Deci & Ryan, 1985) and Cognitive Evaluation Theory (Deci, 1975) alone cannot account for critical incident engagement, and motivations beyond increasing autonomy, competence and relatedness were identified in this research. Despite this, there is sufficient evidence to support the integration of Self-determination Theory (Deci & Ryan, 1985), and when combined with General Strain Theory (Agnew, 1992), this offers a more comprehensive understanding of factors potentially underpinning critical incident engagement. The findings, however, suggest that there are motivational factors that extend beyond those captured by Self-determination Theory (Deci & Ryan, 1985), and as was also identified by research pertaining to broader security related incidents in male high secure psychiatric settings (i.e., Ireland et al., 2019). These appear related to the acquisition of primary core human needs, as captured by the Good Lives Model (Ward, 2002; Ward & Brown, 2004; Ward & Stewart, 2003). It is imperative to recognise that the achievement of primary needs can be thwarted by the very nature of forensic contexts, thus Differential Opportunity Theory (Cloward & Ohlin, 1960) may also offer further understanding of the findings by capturing the interactional elements that are characteristic with the research forensic population utilised.

The Good Lives Model (Ward, 2002; Ward & Brown, 2004; Ward & Stewart, 2003) and Differential Opportunity Theory (Cloward & Ohlin, 1960)

Further building on the previously discussed Self-determination Theory (Deci & Ryan, 1985), which acknowledges the three basic psychological needs of autonomy, competence, and relatedness, the Good Lives Model (Ward, 2002; Ward & Brown, 2004; Ward & Stewart, 2003) outlines additional fundamental core human needs. These include self-acceptance, experience of positive emotions, sense of meaning and purpose, and spiritual fulfilment via connection to something greater than oneself (Ward & Stewart, 2003; Mallion et al., 2020). The current findings indicated the presence of needs extending beyond those captured by Self-determination theory (Deci & Ryan, 1985), but captured by the Good Lives Model (Ward, 2002; Ward & Brown, 2004; Ward & Stewart, 2003). These factors included the need to experience positive emotions, sense of purpose, and a need for significance to others. Additional factors related to the environment included access to meaningful activity, sense of community, and availability of pro-social support. As such, when combined with the previously discussed theories, there is sufficient evidence supporting the utility of the Good Lives Model (Ward, 2002; Ward & Brown, 2004; Ward & Stewart, 2003) when understanding factors related to critical incident engagement within a forensic context. Indeed, critical incident engagement may represent a maladaptive, but often effective way to meet primary needs, as accounted for motivational theories, such as Self-determination Theory (Deci & Ryan, 1985) and the Good Lives Model (Ward, 2002; Ward & Brown, 2004; Ward & Stewart, 2003), which appear more salient in the context of strain and differential opportunity.

Forensic contexts/environments may impede access to opportunities of legitimately meeting core needs, thus presenting differential opportunities for adaptive coping. The current findings offer limited support for the specific integration of Differential Opportunity Theory (Cloward & Ohlin, 1960), as the impacts of differential opportunities are best described as an unjust strain, thus accounted for by General Strain Theory (Agnew, 1992). Nevertheless, the presence, absence, and/or salience of primary goods should be appraised on an individual basis and with

consideration of potential inequalities. Based on the findings of this thesis, this should include attention to relevant social, cultural, individual, environmental, and economic aspects, and inequality pertaining to these factors. To date, this has not been the core focus of critical incident management, yet consideration of such factors appears central to effective management and potential mitigation of future engagement. To fully attend to the above factors, further research may be useful in determining the social schematic mechanisms that may underpin critical incident engagement.

Social schematic theories

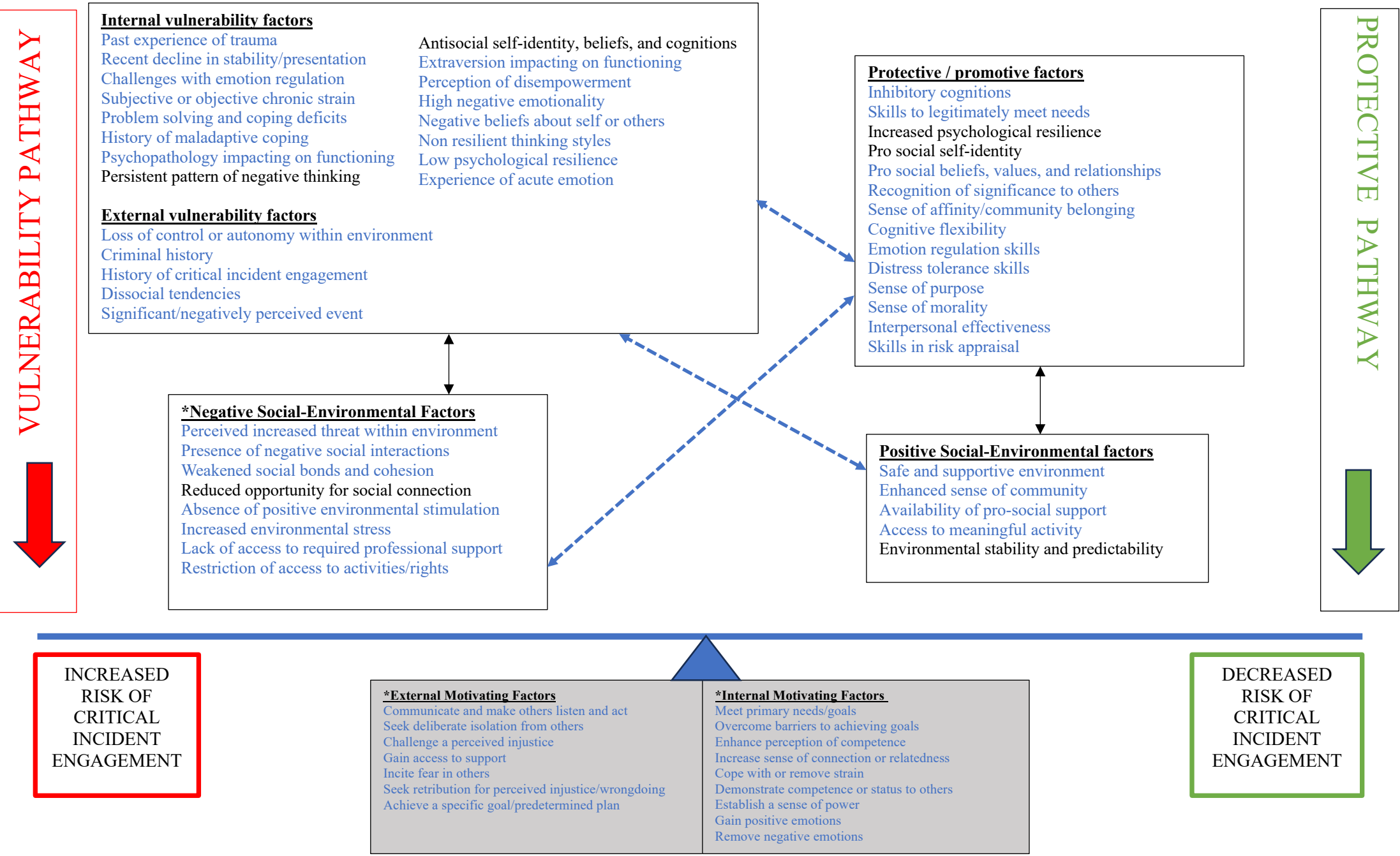
The findings of the current research offer limited application of the social schematic theories discussed in chapter four. This may be a result of the methodological approach, which is retrospective in nature, thus offering limited understanding of the social processes and mechanisms from which vulnerability and protective/promotive factors may occur or originate. Nevertheless, the findings of this thesis did highlight the *possible* value of Social Bond Theory, (Hirschi, 1969) when understanding factors underpinning critical incident engagement. The findings revealed that weakened social bonds and reduced social cohesion resulted in increased strain, thus potentially motivating critical incident engagement as a means of managing, replacing, or removing strain. Moreover, pro-social beliefs, values, and relationships were identified as salient protective factors, with such factors serving a protective function even when societal bonds are weakened or non-existent (Hirschi, 2017). Again, this demonstrates the complex and interactive nature of factors underpinning critical incident engagement. The findings also highlighted the *potential* value of Social Identity Theory (Tajfel, 1978; Tajfel & Turner, 1979), and an anti-social identity was found to represent a vulnerability factor for critical incident engagement, and a pro-social identity was found to serve a protective function. Nevertheless, the precise socio-schematic mechanisms underpinning these findings remain unclear at the current time. Thus, there are insufficient grounds to confirm that SBT or SIT

accounts for factors influencing critical incident engagement. Proposed next is an explanatory model outlining factors underpinning critical incident engagement, and which incorporates core findings from the current programme of research.

9.4 Towards an explanatory model of critical incident engagement

The findings of this thesis, alongside the presented literature and theory, have informed the development of an explanatory model of critical incident engagement for application in a forensic context. This theoretically driven model includes a vulnerability and protective/promotive factor pathway, also accounting for socioenvironmental factors. This multifactorial model is preliminary, and as such requires further research and testing. Suggested variables and associated factors are drawn from the research findings and theory discussed earlier in this chapter. As such, the model is integrative and inter-relational by nature. The proposed model is presented in Figure 9.1 and is explained below. Factors presented in blue font relate to direct findings from this thesis and those presented in black include those identified in presented literature, as outlined in chapters three and four. A summary table accounting for each identified dimension and the relative contribution of each study is included in Appendix 4.

Figure 9.1: Integrated Model of Critical Incident Engagement (IMCIE)



The proposed model in Figure 9.1 depicts a vulnerability and protective pathway for critical incident engagement. The Integrated Model of Critical Incident Engagement (IMCIE) proposes that internal and external vulnerability factors, and internal protective factors interact with positive and negative socioenvironmental factors to either increase or decrease risk of critical incident engagement, as illustrated by the black arrows. The model outlines the internal and external variables, of which several factors can present simultaneously, and that were identified in this thesis. The bold dashed arrows depict a bi-directional relationship between the factors, where one factor can either weaken or strengthen the other. The proposed model (IMCIE) identifies several internal and external vulnerability factors that may increase the likelihood of individuals engaging in a critical incident, and several protective/promotive factors that may decrease risk of engagement. In simple terms, factors can idiosyncratically interact to either strengthen or reduce the likelihood of critical incident engagement, as depicted by the balancing scale.

Each study included in this thesis offers unique insights, subsequently contributing to the IMCIE. Study 1 lays the foundation by identifying vulnerabilities, external influences, and varying functions. Study 2 highlights the key role of protective factors in understanding critical incident engagement, which have been largely overlooked to date. Study 2 also enhances understanding of the functions identified in existing literature lending further support for variables identified in study 1, with specific emphasis on salient socio-environmental factors. The importance of pro-social interactions and supportive environments are also highlighted in study 2, thus emphasising the social underpinnings that are essential for fostering resilience. Study 3 highlights more specific and personal motivations, capturing those that have not been identified in the literature to date (i.e., to incite fear) and providing further evidence for vulnerability factors and functions identified in earlier studies. Finally, study 4 highlights the role of personality related factors and impacts on functioning, thus offering a nuanced

understanding of engagement. Combined, the findings of these studies have informed the development of the IMCIE model, enabling the formalisation of approaches to understanding critical incident engagement, whilst also directing future research of unexplored areas. A summary table accounting for the specific contribution of each study to the proposed IMCIE model is included in Appendix 4.

In line with General Strain Theory (Agnew, 1992), strain pertaining to both internal and external vulnerability factors and negative socioenvironmental features may increase the likelihood of critical incident engagement, as a means of removing, managing, or replacing strain. Furthermore, and in line with Self Determination Theory, (Deci & Ryan, 1985) and the Good Lives Model (Ward, 2002; Ward & Brown, 2004; Ward & Stewart, 2003), the proposed IMCIE model captures functions (motivations) of critical incident engagement as a means of meeting primary needs, such as autonomy, relatedness, competence, and positive emotion. These are depicted in the grey box, and internal and external motivating factors, as identified in studies one, two, and three of this thesis are included. In line with the theory and literature presented in the introduction, the IMCIE outlines salient vulnerability and protective/promotive factors, which were found to interact with the social environment in influencing and motivating critical incident engagement.

9.5 Practical applications

Implications for perceptions/conceptualisations

Until now, understanding related to critical incident engagement has relied upon a very limited theoretical and empirical underpinning. As such, existing organisational policy and procedure has likely been developed based on an incomprehensive understanding of the evidence base. Existing policy and procedure fundamentally relate to the effective management of critical incidents at an operational level, and this often falls within the remit of safety and security

personnel. As such, there is arguably an inherent tendency to conceptualise critical incident engagement within forensic contexts as an attempt to subvert security, or as a mere act of delinquency. This narrow perception is not only stigmatising for individuals who are already more likely to be marginalised from mainstream society, but it is also likely to increase unconscious bias, which when acted upon may only serve to further align individuals with an anti-social or pro-criminal identity. Indeed, unconscious bias can result from gaps in knowledge and may underpin decision making, particularly where there is a power differential or hierarchical structure (Emberton, 2021). This is of clear relevance to critical incident management within forensic contexts, and whereby enhanced understanding and clearer conceptualisation is required.

Conceptualising critical incident engagement as a form of delinquency is also reductionist, and likely results in missed opportunities to mitigate future engagement via addressing more nuanced factors. Viewing critical incident engagement as an act of misconduct offers very little understanding of the functions of critical incident engagement, which is where the opportunities for effective intervention and change may present. An example of this would be critical incident engagement as a means of increasing relatedness via social connection with others, and where perpetration may result in the individual being placed in seclusion. Not only would this place the individual further away from their desired goal, thus potentially increasing risk of future engagement, but it also reduces the opportunity for meaningful engagement and interventions aimed to enhance social and interpersonal skills, which may support goal acquisition in a pro-social manner.

It is hoped that the proposed model will contribute to improved understanding of the motivations of critical incident engagement, and that this will encourage perspectives more consistent with a person-centred and rehabilitation orientated approach. It is further hoped that the proposed model will be helpful in challenging existing perceptions of critical incidents,

where engagement is perceived through the lens of misconduct, and that it will encourage a more humanistic approach where critical incident engagement is perceived as an attempt at coping with subjective strain, albeit maladaptively. It is hoped that this model will encourage a shift in perspective and where the sole focus on the behavioural response is expanded to also considering the functions of engagement. Viewing engagement as a maladaptive means of coping or meeting needs is far more likely to engender a more empathic response from staff and negotiators, thus likely facilitating the negotiation process. Moreover, the retrospective consideration of past critical incidents based on factors outlined in the model may support practitioners to determine what an individual was aiming to achieve via critical incident engagement. This may inform intervention planning and highlight the potential scope to work in collaboration with individuals to support the generation of alternative approaches to goal acquisition.

Implications for the prediction and management of critical incident engagement

It is hoped that the model will have practical utility in respect of the management of critical incidents. There is potential scope for the model to inform the basis of intelligence gathering via the identification of salient factors underpinning engagement. By recognising the underlying factors potentially driving behaviour during incidents, critical incident teams can implement interventions that address these motivations directly, leading to more effective resolution strategies. This approach ensures responses are not only strategic but also empathetic, increasing cooperation and reducing conflict, thereby enhancing overall incident management and recovery processes. Whilst the aim would not be to problem-solve during the negotiation process, discussion of pertinent factors may facilitate the development of empathy and rapport in the early phases of negotiation. The proposed model emphasises the importance of subjectively perceived strains, thus potentially highlighting aspects that will be useful to be mindful of during the active listening phase of negotiation.

The model may also enable greater consistency in approach for negotiation professionals across forensic contexts, for example, within secure settings and amongst police negotiation teams. The Behavioural Influence Stairway Model (BISM; Van Hasselt et al., 2008; Vecchi, 2009; Vecchi et al., 2005) affords consistency in approach from an operational perspective, yet application of the BISM may vary based on negotiator understanding of factors underpinning critical incident engagement. As such, the proposed model may support the development of a more cohesive understanding, thus potentially affording greater consistency and enhancing effective management. With further refining and development, it is possible that the proposed model could contribute to the development of structured guidelines for critical incident management teams and training need analysis, which in turn could contribute to the much-needed formalisation of support and empirically driven guidance framework.

Further related to the direct management of critical incidents, the model may also highlight opportunities for critical incident prevention. The model could be used *a priori*, in clinical practice, either with those with a history of critical incident engagement, with those considered high risk of engagement and/or with those who express threats or ideations of critical incident engagement. The model could be used collaboratively with the individual, or independently by clinical care teams, and may be used to identify salient vulnerability and protective factors, thus providing a basis on which individualised treatment and intervention can be determined. The model could be used to inform the collaborative formulation of risks in this area and the appropriate sequencing of interventions.

It is hoped that the model will support a shift from reactive focus on outcomes of critical incidents, to pro-active focus on prevention. Also related to the notion of prevention, it is hoped that a more nuanced understanding of critical incident engagement will facilitate the recognition of potentially reinforcing factors and in turn, assist the identification of specifically tailored treatment or intervention needs. In an assessment context, the proposed model could

be used to inform recommendations for professional support or future interventions. The model could also be used to develop structured and individualised assessments for individuals who are identified as being at greater risk of perpetrating critical incidents, for example, based on their engagement history. As such, there is potential that this model could be used by clinical teams to inform the development of individualised treatment and intervention plans, particularly where an elevated risk of critical incident engagement is identified.

The proposed model may also have application in determining the specific factors to be targeted in intervention, for example, maladaptive schemas which require addressing before they become reinforced and subsequently impair longer term functioning. This, in turn, may highlight areas where those supporting individuals who are more likely to engage in critical incidents can develop and refine their skills. This may include, for example, skills such as motivational interviewing approaches and socratic questioning techniques which can be useful in facilitating the identification of cognitions and beliefs underpinning behaviour. This may support the development of intervention and management plans that are not only individualised but are more specific and detailed in terms of *how* individual needs can be met.

The proposed model may also enable greater integration of protective/promotive factors when developing individualised intervention and management plans. Not only is this more aligned with the strength-based approach underpinning more contemporary rehabilitation aims, but it also widens the scope of potentially useful interventions. For example, focus on increasing protective/promotive factors provides opportunities for intervention that extends beyond risk management methods that by nature often increase restrictive practice. Further to this, the model highlights additional factors that have received little attention until now, such as socioenvironmental factors. This again widens the scope of remedial action that may assist both prevention and management of critical incident engagement. In turn, application of the

proposed model may encourage greater attention to factors beyond the individual, supporting a more holistic and systems-based approach.

The restricted understanding of factors underpinning critical incident engagement has until now restricted management and intervention approaches. The proposed model offers an alternative to management approaches that are based on intuition and subjective experience. Currently, professionals in forensic services rely primarily on subjective experience, the 'professional gut', and data pertaining to historical engagement to make predictions relating to risk of future engagement, and a tool to support prediction does not exist. A potential practical application of the proposed model is enhanced consideration of pertinent factors when predicting future engagement. With further research and testing, the model may be useful in informing the development of a critical incident risk assessment or screening tool. Whilst it is acknowledged that no risk assessment tool can accurately predict a phenomenon in all instances, an assessment/screening tool may nevertheless be useful in prioritising available resources to those with an increased likelihood of critical incident engagement.

9.6 Strengths, limitations, and directions for future research

A key strength of this research is that it was conducted by a qualified forensic psychologist with skills and knowledge regarding the methodological approaches utilised, ethical considerations, and the practical application of findings. Nevertheless, it is important to also recognise the pitfalls of this, as there is potential that the research included unconscious biases impacting the research design, assumptions, research questions, and/or interpretation of results. Whilst inter-rater reliability was conducted on the whole data set to account for this, it is possible that the researchers background in forensic psychology shaped the lens through which the research was initially designed and through which the findings were analysed and interpreted. It is also possible that the theoretical orientation of the researcher, alongside

existing knowledge of therapeutic approaches and modalities shaped the core aims of the research and the focus on cognitions, emotions, and past experiences in driving critical incident engagement. It is possible that behaviourist approaches are also salient to both enhancing understanding and behavioural modification, thus certain theoretical positions may have been overlooked. As such, it is important that future research in this area accounts for several theoretical positions and potential bias in this regard.

This research is distinct in its approach to understanding the motivations of critical incident engagement. It extends beyond existing research, also exploring the potential contributions of socioenvironmental and protective/promotive factors in impacting critical incident engagement. Moreover, contrary to the lack of control groups in many existing studies (Buelens et al., 2007), study four includes individuals who have a history of critical incident engagement and those who do not. It is, however, notable that due to the forensic psychiatric nature of the sample and the presence of several shared characteristics, background factors, and forensic history, those who did not have a history of critical incident engagement are best considered a comparison, rather than a control group. Much of the limited available research focuses on academic insights relating to effective management of critical incidents, case studies, and/or anecdotal evidence (Bond, 2020). Furthermore, there is a lack of empirical research regarding both perpetrator and negotiator perspectives. Until now, there has been an absence of research exploring the perceptions of negotiators across forensic-clinical, custodial, and community settings.

A key strength of this research is that it has employed a 360-degree approach, capturing perceptions of those who have not been included in previous research. It has obtained views from perpetrators of critical incidents and from negotiators practicing in a secure psychiatric hospital setting, a prison setting, and across two different police forces. Furthermore, it has included perceptions captured in media publications, again building on existing research and

contributing to improved understanding. The mixed methods approach has also enabled the qualitative exploration of salient variables, which were then subjected to quantitative analysis. This enabled a triangulation approach, richness of data, and greater contextualisation and validity of findings.

Nevertheless, the research and proposed model are not exempt from limitation. The implications of specific focus on barricades, hostage situations and protests at height are recognised. Whilst the exclusive definition of critical incidents utilised for the purpose of this thesis enables a degree of clarity in a field which has been subject to definitional ambiguity (May et al., 2023), this narrow focus has arguably somewhat limited the scope of the findings. It is plausible that the model does not capture the nuances and variations that are characteristic of other types of critical incident and consequently, broader applications may have been overlooked. Furthermore, despite the use of specific operational definitions, it is possible that these were not interpreted the same across context, organisation, and location. Organisational variation is likely exacerbated by the longstanding conceptualisation challenges relevant to this field and which have perpetuated decision-maker uncertainty and management challenges (May et al., 2023).

As such, whilst the current research and proposed model offers a starting point, there is a clear need for further research and testing. Fundamentally, this should include greater consideration of the parameters of what constitutes a critical incident, and generalisability across context, organisation, and place. It is crucial that greater attention is focussed on organisational/institutional variation, and the specific factors that may influence how a critical incident is interpreted, responded to, or managed due to unique cultures, policies, structures, or practices. This is pivotal, not least such factors can underpin risk averse management approaches and the deployment of emergency resources (May et al., 2023), and which can

increase the risk of injury and fatality (Dolnik, 2003). Moreover, attention should be awarded to cross-national variation, which should include consideration of cultural practices, legal systems, economic policies, and social norms.

The types of critical incidents included in this research, i.e., hostage situations, barricades and protests at height, may have also somewhat narrowed the population that qualifies for study inclusion, potentially leading to a less diverse or representative sample. There is potential that those engaging in such critical incidents represent the more 'extreme' end of the scale, and whilst this population are arguably more accessible within a high secure setting, the risk, vulnerability, and protective factors may not be representative of the broader population of those engaging in such incidents. Moreover, it is possible that those consenting to engage had different perspectives to those unwilling to engage in the research, thus there is potential that a degree of sampling bias impacted the findings due to the study design and ethical requirements. Similar issues also apply to the negotiator sample utilised in study two and where variation may be observed in relation to understanding of the critical incidents studied due to variations in prevalence within different settings. Furthermore, negotiators willing to engage in the research may have perceived themselves to have sufficient or enhanced understanding of the topic areas explored. As such, further research is required to ensure generalisability and representativeness of the proposed model.

Further issues are also noted with regard to representativeness; whilst the findings of study two included responses from those working in community (police) and prison settings, and study three included media perspectives, studies one and four only included a forensic psychiatric sample. As such, greater testing of the model will be required to determine generalisability and applicability across other forensic contexts. It is recognised that whilst the police operate within a forensic context, those who the police respond to are not always those who have forensic

histories, or who reside in forensic settings. As such, the proposed model has been developed based in part on application within a broader forensic context, including those in distress but not necessarily with forensic histories, rather than within a pure forensic population. Furthermore, whilst study two may have included negotiator perspectives of critical incidents perpetrated by women, this cannot be readily determined, and studies one and four included an all-male sample. Moreover, in study three, media perspectives all related to critical incidents perpetrated by men. As such, the extent to which this research and proposed model can be applied to women remains unclear. It is also unclear what, if any, factors are gender specific, as no comparisons were made on this basis. As such, further research and testing of the proposed model with consideration of application to women, and those who identify as women, is undoubtedly required.

As captured in the limitations for each specific study, this research relied upon a narrower sample, and as such small yet acceptable sample sizes for the specialised research topic were included in each study. This also limited the scope for alternative methods of analysis, such as mediation analysis, which may have enabled the mechanisms or processes underlying the relationship between variables, including the identification of potential mediator variables. Whilst the proposed model has captured cognitions, the methodological approach did not permit full analysis of the varying cognitions that may motivate or protect against critical incident engagement. For example, whilst inhibitory thoughts were found to serve a protective function, the specific mechanisms by which this occurs remains unclear. Therefore, it would be helpful to further understand the potentially mediating influence of identified variables, such as the broad types of positive and negative cognitions, and this could represent an avenue for further research. The challenges associated with this will include delineating between how cognitions impact engagement. It cannot be simply assumed that positive cognitions (e.g., *'I can carry things through to the end'*) will serve a protective mechanism and similarly negative

cognitions (e.g., *'I am not competent enough to make others listen'*) will increase risk of engagement.

There was also no comparison of differences between types of critical incident (e.g., hostage taking, barricade, and protest) in this research, as the limited sample sizes did not allow for meaningful comparison based on these variables. Moreover, no comparisons were made based on primary diagnosis, as it was felt that results would have been skewed by the forensic psychiatric sample utilised and there was greater emphasis on functioning. Nevertheless, not least given the pervasive impacts of mental health diagnosis on specific aspects of functioning, it may be useful to explore such differences in future research.

Whilst there were attempts to gather data for this research via several approaches, that is, via assessment of functional assessments completed during clinical interviews, semi-structured interviews, analysis of media publications, and completion of self-report questionnaires, there was an overreliance on subjective perceptions and self-report. Given the nature of the research topic and issues related to the sensitive nature of information, it was not possible to include more objective measures, or to verify reported information based on factual detail. This may have compromised the accuracy of the data, therefore potentially impacting the integrity of findings. Future research could aim to also include objective measures, and/or seek to verify provided information, for example by obtaining approval to access documented records. Nonetheless a realistic approach must be taken, as information considered salient is not always recorded, yet it is hoped that this will be more feasible in the future owing to the development of the National Negotiator Deployment Database (NNDD; Grubb, 2016), a standardised electronic web-based system in the UK.

Also related to the overreliance on self-report, an inherent limitation of research of this nature is the reliance on retrospection. This includes a reliance on memory accuracy, which may

arguably be more compromised in emotionally charged events (Oulton et al., 2016), or continually reconstructed over time (Brewin, 2007; Dekel & Bonanno, 2013). Not only may the findings be influenced by natural memory decay due to the passage of time, where participants may have unintentionally forgotten or omitted key details thus resulting in incomplete or inaccurate recollections, social desirability bias may also have influenced self-reported information. It is plausible that many of those engaging in critical incidents would recognise the benefit of portraying themselves in a positive light and placing less emphasis on risk and vulnerability factors. As such, it is possible that some aspects were selectively recalled and/or reported. This is particularly salient given the population sampled, where the very nature of hospitalisation is to address risk related factors and to foster recovery and rehabilitation to support eventual community reintegration, where possible. Related to this is the individual's stage in recovery at the time of data collection, and where this may have impacted reported recollection. Recall bias is a possibility, and recollection may have been influenced by the individual's current emotions and/or subsequent events, thus potentially skewing the data. Furthermore, self-reports may have been influenced by retrospective interpretation whereby past events were reinterpreted based on knowledge, cognitions, and attitudes at the point of data collection. The content of recalled information may also have been influenced by the researcher prompts utilised when completing the SORC assessments and the approaches to eliciting information, e.g. Socratic questioning techniques.

Indeed, due to the post-hoc nature of the information gathering, it is entirely possible and somewhat likely that the perpetrator and negotiator of the same incident would view the aetiology and nature of the critical incident differently, whether this be intentional or unintentional. Similar issues may also apply to the negotiator sample, who may also perceive the need to portray themselves in a positive light due to previously discussed factors, such as self-preservation and accountability (Alison et al., 2018). Perceptions may also be influenced

to exposure over time, subsequent events, and knowledge at the point of data collection. It is also possible that the semi-structured nature of the interview schedule influenced responses, and where these may have resulted in selective recall, memory distortion and confirmation bias, for example. The retrospective nature of this research poses several challenges, and which all necessitate careful consideration of the quality of the data, and subsequently the reliability of the findings. It is hoped that this research will place a spotlight on this much neglected area and that going forwards, increased resources will be allocated to gathering perceptions as soon as is considered appropriate following perpetration, thus potentially reducing retrieval intervals and maximising recall ability.

Memory challenges may be even more pertinent where emotional distress or psychological trauma is associated with perpetration of a critical incident, and this may be further exacerbated by factors such as mental health symptomatology (Brébion et al., 2020) and substance use (Stavro, Pelletier & Potvin, 2013), and which are commonly experienced in the sampled population. Nevertheless, there is much debate on whether the experience of trauma impairs or enhances memory, with some research finding that traumatic memories are more vivid, enhanced, and preserved more consistently over time (Porter & Peace, 2007). A potential direction for future research could therefore include screening for psychological trauma to enable greater understanding of potential impacts on memory and functioning.

This research is also cross sectional. Consequently, the presence of significant associations in study four does not allow for conclusions to be made regarding the potential of variables changing over time and through targeted intervention. This is particularly salient in secure forensic settings, particularly where there is an emphasis on risk reduction and rehabilitation. As such, the retrospective nature of the studies may have resulted in challenges in identifying variables that were relevant at the time of critical incident engagement, but not at the time of data collection.

Finally, the significance of effect sizes and the proportion of variance accounted for in the regression models in study four need to be carefully considered. Some predictor variables only explained a small amount of variance in both engagement and non-engagement in critical incidents. This indicates that the models may not have captured all the influential factors. It's likely that other variables, currently unaccounted for, could play a significant role in critical incident engagement. These might include elements such as coping style, history of adverse experiences, cognitive schemas, and attachment style, for example. Further investigation into these areas could potentially enhance the explanatory power of the models.

9.7 Final conclusion

This PhD thesis aimed to explore factors underpinning engagement in critical incidents and to develop a preliminary model of understanding for application within forensic contexts. The findings provided greater insight into the complex and multifaceted nature of critical incident engagement, also highlighting the important contribution of positive and negative socioenvironmental factors. Whilst this research and the proposed model provides a more empirically and theoretically grounded understanding of critical incident engagement, there is undoubtedly a need for further research and testing of the proposed model. What has been established via the four studies of this thesis is that critical incident engagement is a complex interplay of influential factors, interacting at an individual and systemic level. Therefore, this research and proposed integrated model offers support for a more individualised approach to managing and preventing critical incidents, accounting for internal and external vulnerability factors, interacting motivational factors, internal protective/promotive factors, and positive and negative socioenvironmental factors. Moreover, the findings highlight that critical incident engagement should be viewed as a function of coping with strain, enhancing self-determination, and meeting of core needs, as opposed to an act of rebellion or delinquency.

This is of fundamental importance to the effective management of critical incidents, and to the identification of opportunities for targeted intervention and professional support.

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APPENDICES

APPENDIX 1: MATERIALS USED IN STUDY ONE

Setting/Stimuli (before)

This refers to factors in the environment or other people that lead to the behaviour (critical incident) happening:

- The presenting situation
- People's actions towards you
- Your interactions with others
- Mood
- Thoughts
- Emotions
- Physical pain
- Physiological state, e.g. temperature
- Sleep
- Social events
- Substance misuse
- Etc...

Response (during)

This refers your behaviour or actions during the event we are focussing on:

- Nature of behaviour
- Duration
- Intensity
- Use of/types of aggression
- Hurting yourself
- Saying inappropriate things
- Threats made.
- Thoughts and emotions during
- Damaging property
- Using internet/mobile communication
- Substance/alcohol use
- Coping strategies used
- Help-seeking attempts.

Consequences (after)

This refers to after the behaviours or actions happened:

Thoughts

- Emotions
- Physical sensations
- Relationships
- Personal situation
- What was gained from the incident?
- What was removed from the incident?
- What happened immediately afterwards?
- What happened in the weeks/months/years afterwards?
- Who became involved?
- Legal/ external consequences?

Organism (past)

This refers to experiences that you have had in the past, or aspects of yourself, which affect how you may respond to the situation:

- Physical health related factors/head injury
- Personality related factors
- Previous observation of others
- Things that affect your emotions or coping ability
- Being hurt by others
- Thinking styles or attitudes

APPENDIX 2: MATERIALS USED IN STUDY TWO

Research Title: Staff Perspectives of Critical Incidents: An Exploration of Perceived Functions and Protective factors.

INFORMATION SHEET

Background to the research

This research will specifically focus on critical incidents involving holding someone against their will (e.g., hostage-taking), barricades (such as barricading themselves into a room, home and where they are refusing to come out) and/or protests.

There is currently little research relating to factors that can affect the likelihood that an individual will engage in a critical incident (i.e., hostage taking, barricade or protest). This research hopes to look at why critical incidents happen, and to use the views of professionals to add to current understanding. It is really important to get the views of professionals about critical incidents and the factors that they feel may increase the likelihood, or prevent such incidents from happening. Ultimately, this research hopes to contribute to the development of a model of understanding; this will benefit current practice and the formal evaluation of risk in relation to critical incidents. The research will also inform the training of staff and aims to influence the development of negotiation techniques and strategies.

About the research

██████████ based at ██████████ is carrying out research in conjunction with the University of Central Lancashire. It will explore your beliefs as negotiators about critical incidents and why you think that they might happen from your direct experiences. It is also looking at what you think might increase the risk of individuals engaging in critical incidents, along with factors that may prevent individuals from perpetrating such incidents. The research data will be used by Kimberley McNeill as part of a further research degree qualification.

This information sheet has been circulated to potential participants by a link person from your management team. In order to take part in this research study you must have experience of actively working with critical incidents (as defined above).

Before you consider taking part in this research it is important that you take the time to read the following information.

Who is doing the research? ██████████ team including, Kimberley McNeill, Dr Carol A. Ireland, Dr Simon Chu, and Professor Jane L. Ireland.

What will happen in this research?

The following steps will happen in the research;

1. If you are interested in taking part in this research, please contact the research team by email (details below).
2. A member of the research team will then read through and discuss this information sheet with you and answer any potential questions that you may have. This should take approximately 5-10 minutes.

3. You will be given up to a week to think about whether you would like to take part in the research.
4. If you would like to take part, you will be asked to contact the research team providing telephone and either postal or email contact details. A consent form will then be sent to you (either by post or via email) and this should be completed and returned to [REDACTED] or the postal address detailed at the end of this information sheet.
5. A member of the research team will then contact you to arrange a mutually agreed convenient time to call you.
6. We will then call you at the agreed time and discuss with you your views relating to critical incidents. This will take about 45 minutes and will be audio-recorded. This will then be transcribed. Prior to this it would be helpful for you to think of at least one critical incident that you have been actively involved in as a negotiator, that is the most memorable for you. If you are not sure if the incident will fit, please just contact Kimberley McNeill (details below) who will advise you.
7. When the study is completed, participants will be provided with a summary about what the study found.

What you will be asked to talk about?

If you agree to take part you will be invited to engage in a discussion with the researcher to explore your views on critical incidents and factors that you think may prevent individuals from perpetrating such incidents. You will be asked number of questions to consider your experiences and the issues that you feel are relevant to critical incidents. You will then be asked to respond to each question, the researcher will be led by you to determine the direction of the discussions, but will keep to certain themes.

You will also be asked to **consider and discuss a critical incident that you have been actively involved in as a negotiator and that is most memorable for you.** You will not be asked to provide any identifiable information about the incident (i.e., location or who was involved) – the researcher is interested in the incident itself. The researcher will be asking for a summary of what you think in terms of;

- What led up to the incident;
- What happened before the incident;
- What happened during the incident;
- What happened after the incident;
- Why the incident occurred.

It is hoped that this will provide some useful information as to why the incident occurred as opposed to simply what happened.

Some people find that talking about critical incidents can be an emotionally difficult topic. If you do find this to be the case during the process of the discussion, then please feel free to end the discussion at any point. Researchers will not ask for an explanation for terminating the discussion although they will attempt to alleviate any potential distress by offering support and contact details of external support agencies. Any data that you have provided up to this point will then be destroyed and will not be used in the final write up of the study.

If you feel that this research has affected you in any way and you would like to discuss this, please speak to your supervisor. If you feel you would like additional support, your supervisor will be able to provide additional contact details for other support agencies.

Alternatively, if you would rather contact someone outside of your organisation, two external support agencies are detailed below.

- Samaritans (a confidential free support service) Tel: 08457 90 90 90; Email: jo@samaritans.org
- Victim Support (a support service for those who have witnessed a crime) Tel: 0845 30 30 900; Email: supportline@victimsupport.org.uk

Consenting to take part

You don't have to take part in this study. If you agree to take part and then change your mind you can just let us know, as long as you inform us within six weeks after the interview has taken place. This is so we can make sure you are removed from the sample and all of the data that you have provided will be destroyed. You don't have to agree now. A member of the research team will agree a time to come back to speak to you should you decide that you would like to think about taking part. If you take part in the research you can also withdraw at any point during the interview, should you decide to.

Anonymity

Everyone who takes part will be given a 'research number' which will be on the information collected instead of your name. Only the research team will have access to the names. This list will be destroyed once the research is completed. Every effort will be made to anonymise any quotes used to illustrate results.

Security of information obtained

All copies of research information (including audio-recordings) will be held by the research team. They will be kept secure in a locked filing cabinet. [REDACTED] or UCLan Ethics may look at the information held (for example, to check whether everyone has given written consent), but this is to protect participants as well as checking the researchers have completed everything they have agreed to.

What will happen to the results of the research study?

All collected data will be analysed and themes will be identified. Findings will be presented in the researcher's postgraduate research thesis. Results may also be presented at conferences and in scientific peer review journals. Quotations and excerpts from your interview may be presented in the write up of this research and the research team will make every effort to remove identifying information from the reported quotations. This might involve replacing names and locations with appropriate pseudonyms for example. It is important to note however, that identifiable information is not always readily apparent and therefore may not be removed in the final write up despite greatest endeavors. The research team would therefore ask participants to be mindful of the information that they provide and the potential consequences of its publication.

Further information

Further information on this study can be obtained at any time from the following:

Kimberley McNeill

If you have any concerns about the research that you do not wish to speak with the researcher about directly, you should contact your supervisor who can help you.

Thank you for taking the time to read this information.

Version 2

RESEARCH CONSENT FORM

Name: _____

Research Title: Staff Perspectives of Critical Incidents: An Exploration of Perceived Functions and Protective factors.

Lead Researcher: Kimberley McNeill

I have read and understood the participant information (V2) sheet, for the above research and have had opportunity to ask questions.

I understand that my participation is voluntary and that I am free to withdraw from this research, without giving any reason at any point up to six weeks after the interview has taken place. If I choose to withdraw from the research then all of my data will be destroyed and will not be included in the final write up.

I understand that all information relating to myself obtained as part of the research will remain anonymous to those outside of the research team, and that I will not be personally identified in any final research report(s) or conference papers.

I understand that my responses will be audio-recorded. I also understand that the audio-recordings will be destroyed after transcription.

I understand that the research will be used as part of further research degree qualifications

I understand that this consent form may be seen by responsible individuals from [REDACTED] and the University of Central Lancashire for the purposes of monitoring research procedures. I understand that this is for audit purposes only to ensure that my consent has been sought.

I _____ (please print name) agree to be involved in the research carried out by [REDACTED] **and the University of Central Lancashire** and I am satisfied that the purpose and procedures of the research have been fully explained to me.

Signed:(Participant) **Date:**.....

Signed:(Researcher) **Date:**.....

INTERVIEW SCHEDULE

STAFF PERSPECTIVES OF CRITICAL INCIDENTS: AN EXPLORATION OF PERCEIVED FUNCTIONS AND PROTECTIVE FACTORS.

Introductions

- Go through main points on Participant Information Sheet
- Remind about confidentiality
- Time frame - approximately 45 minutes to 1 hour
- Ask participant to confirm that they have provided consent and that they are happy that the research has been fully explained to them.

Recording begins - Preamble

- Read out the definition of a critical incident (below)

“A critical incident can be defined as a crisis or a conflict situation and can pose a significant threat to public safety. This research will specifically focus on critical incidents involving holding someone against their will (e.g. hostage-taking), barricades (such as barricading themselves in to a room, home and where they are refusing to come out) and protests.

I have a number of questions, which will prompt us to consider your experiences and the issues that you feel are relevant to critical incidents. I would like to find out what you think and what comes to mind when we discuss these issues, so will be led by you to determine the direction of our discussions. If you prefer not to answer a question for any reason, then please say so and we will move on”.

PART 1- EXPLORATION OF STAFF PERSPECTIVES & PERCEIVED PROTECTIVE FACTORS

- Read out the definition of protective factors (below)

“Protective factors are conditions or attributes in individuals, families, communities, or the larger society that, when present, minimise or remove the risk of critical incidents. We will also explore occasions where discussion of protective factors contributed to the individual bringing the critical incident to an end. It may also involve discussion about situations where individuals who have a history of engaging critical incidents no longer engage in such behaviours.

Please draw on your **overall experience of critical incidents** for the following questions”.

1) HISTORY

Please tell me about your history of involvement in critical incidents?

Researcher Prompts: Researcher to cover these areas:

- How has this changed across your career?
- To what extent have you had more or less involvement in critical incidents compared to your colleagues?

2) KNOWLEDGE OF CRITICAL INCIDENTS

How would you describe a critical incident?

Researcher Prompts: Researcher to cover these areas:

- What does a typical critical incident look like for you?
- Under what circumstances do you think an individual might engage in a critical incident?
- If you were speaking to someone who didn't know a lot about critical incidents, how would you describe what they are?

3) SOCIAL INFLUENCES

What do you think society thinks about those who engage in critical incidents and why they may choose this behaviour?

Researcher Prompts: Researcher to cover these areas:

- How are other peoples' thoughts different/ similar to yours?...why do you think that they are similar/different?
- What would your family/friends think the reasons are for why people take part in critical incidents?
- What information do you think these beliefs/thoughts are based upon?
- Please give some examples of when you have been aware of other peoples' thoughts/beliefs?

4) STAFF PERCEPTIONS

What do your work colleagues think about people who engage in critical incidents and why they may choose this behaviour?

Researcher Prompts: Researcher to cover these areas:

- How are your colleagues thoughts different/ similar to yours?...why?
- What would your colleagues think the reasons are for why people take part in critical incidents?
- What information do you think their beliefs/thoughts are based upon?
- Please give some examples of when you have been aware of your colleagues' thoughts/beliefs?
- To what extent do opinions differ between those trained in negotiation and those who are not? Why?

5) PROTECTIVE FACTORS

What do you think prevents or stops individuals from carrying out critical incidents?

Researcher Prompts: Researcher to cover these areas:

- Provide some examples if needed (e.g. *personal strengths, social supports, positive behaviours and inhibitory thoughts etc.*)
- Why do you think that these factors prevent individuals from taking part in such incidents?
- What qualities or attributes (e.g. characteristics) do you think help people to avoid involvement in critical incidents?

6) INFLUENCING SUCCESSFUL RESOLUTION

What factors do you think increase the likelihood of the individual giving in/bringing the critical incident to an end?

Researcher Prompts: Researcher to cover these areas:

- Why do you think that these factors resulted in the incident ending?
- What makes it more likely to have to end the situation by force?

PART 2 - EXPLORATION OF PERCEIVED FUNCTIONS

“For the remaining questions, I would like you to think about **a critical incident that is most memorable for you**. Please try not to disclose any identifiable information about the event, if you do then this will be anonymised.

I would like to gain an understanding of what you know and think about the *function(s)* of critical incidents. Information will also be gathered about what you think may have triggered and maintained the incident”.

- Read out the definition of a critical incident (below)

The function(s) of a critical incident relates to what was gained for the individual(s) involved, what they felt they achieved and/or the purpose that was served by them taking part in this incident.

7) NATURE AND EXTENT OF THE CRITICAL INCIDENT

Please tell me about a specific (perhaps the most memorable) critical incident that you have been involved in?

Researcher Prompts: Researcher to cover these areas:

- Please talk me through this from the beginning, what happened?
- What did the individual involved say?
- Tell me what was happening for you?
- How do you think it was for the individual involved?
- How long did the critical incident last?
- How serious would you rate this event, why?

8) PREDISPOSING FACTORS

What personal factors do you think may have increased the perpetrators decision to carry out the critical incident?

Researcher Prompts: Researcher to cover these areas:

- Provide some examples if needed (*e.g. personal history, previous experience, mental health etc.*)?
- What vulnerabilities or individual risk factors did the individual present with that you think influenced the critical incident?
- How do you think these factors may have affected the event

9) PRECIPITATING FACTORS

What events do you think led up to the critical incident?

Researcher Prompts: Researcher to cover these areas:

- What was happening immediately before this incident?
- What happened that you think may have triggered the incident?
- What happened prior to this incident – what type of ‘build-up’ was there?
- What did the individual think/say triggered/caused the event?

10) PERPETUATING FACTORS

What do you think happened during the incident that may have kept it going?

Researcher Prompts: Researcher to cover these areas:

- How did the individual respond to the negotiation
- What did you think about how they interacted?
- What do you think made the incident go on for the length of time it did
- What factors (if any) stopped the individual from bringing the critical incident to an end?
- What did the individual say about what kept the critical incident going?
- What factors/issues did the individual say stopped them from bringing the incident to an end?

11) PERCEPTION OF OUTCOMES

What do you think the individual achieved by taking part in this critical incident?

Researcher Prompts: Researcher to cover these areas:

- What do you think the perpetrator wanted to achieve?
- What was the outcome for the person involved
- What are the benefits of individuals engaging in such incidents?

12) REFLECTING ON THE INTERVIEW

Is there anything else that we've not discussed that you would have liked to?

Conclude the interview and thank them for their time.

- Are there any concerns or worries that you would like to raise?
- Explain the rest of the research process and provide opportunity to obtain feedback of findings.
- Any questions?

PARTICIPANT DEBRIEF SHEET

On behalf of [REDACTED] and the University of Central Lancashire, we would like to take this opportunity to thank you for your time in helping us complete this research. As noted in the information sheet, this research is looking at staff perspectives of critical incidents, exploring perceived functions and protective factors

If you have any questions relating to the research that you have taken part in, please do not hesitate to contact a member the research team (details below).

Kimberley McNeill [REDACTED]
[REDACTED]
[REDACTED]

Or

Dr. Carol A. Ireland [REDACTED]
Director of Studies, [REDACTED]
[REDACTED]
[REDACTED]

If this research has affected you in any way and you would like to discuss this, please speak to your supervisor. If you feel you would like additional support, your supervisor will be able to provide additional contact details for other support agencies.

Alternatively, if you would rather contact someone outside of your organisation, two external support agencies are detailed below.

- Samaritans (a confidential free support service) Tel: 08457 90 90 90; Email: jo@samaritans.org
- Victim Support (a support service for those who have witnessed a crime) Tel: 0845 30 30 900; Email: supportline@victimsupport.org.uk

If you have any complaints or questions regarding the study, you can ask to speak to the researcher. If you do not want to speak to the researcher, you may like to contact Dr Carol Ireland who is the Director of Studies.

You are free to withdraw from this research, without giving any reason up to six weeks after the interview taken place and all of your data will be destroyed.

Thank you once again for your time.

APPENDIX 3: MATERIALS USED IN STUDY TWO

Engagement in Critical Incidents: An Exploration Of Individual Characteristics And Background Factors.

CLEARANCE TO APPROACH FORM (PATIENT'S RC)

Patient Name: _____ **Hosp No:** _____

Lead Researchers: Kimberley McNeill, Dr Carol Ireland, Professor Jane Ireland and Dr Simon Chu.

Responsible Clinician clearance to approach

I _____ RC to:

hereby give my approval to the involvement of the above-named patient in the above research study conducted by [REDACTED]. I have received a written explanation of the research and I am also satisfied that the patient is capable of giving his consent for his involvement in this research study.

I also confirm that the above patient has sufficient understanding of the English language.

Signed..... Date.....

Engagement In Critical Incidents: An Exploration of Individual Characteristics And Background Factors.

INFORMATION SHEET

We would like to invite you to take part in a research study that is being conducted by researchers from *University of Central Lancashire* (UCLan) working within [REDACTED] secure services. The research data will be used by Kimberley McNeill (the lead researcher) as part of a research degree qualification.

This research will focus on factors that might be associated with critical incidents. Critical incidents involve holding someone against their will (e.g., hostage-taking), barricades (such as barricading themselves in to a room, home and where they are refusing to come out) and/or protests.

Before you decide whether or not you would like to participate, it is important for you to understand why the study is being done and what is involved. Please take time to read the following information carefully and the researchers will arrange a time to contact you in a few days to answer any questions that you may have.

What is the purpose of the study?

There is currently little research on the factors that can affect the likelihood that an individual will engage in a critical incident (i.e., hostage taking, barricade or protest). This research hopes to look at the background and individual characteristics of those who have, and those do not have a history of taking part in critical incidents so we can learn more about why these incidents might happen.

If we can learn more about the characteristics of the people who have been involved in critical incidents, it will help us to understand those incidents better and this may help us to train negotiators and critical incident staff to deal with incidents more effectively.

Who is doing the research?

Kimberley McNeill, a Research Assistant at Ashworth Research Centre, will be leading the data collection for this project. Other Research Assistants from the [REDACTED] may also be involved in collecting data. All Research Assistants are supervised by Dr Carol Ireland, Dr Simon Chu and Professor Jane Ireland, all of whom work at [REDACTED] and hold honorary contracts with [REDACTED]

What does taking part in the study involve?

You will not be asked to write your name on the questionnaires, yet the researchers will keep a list of the names of people who have taken part in the research. You will be asked to provide other information about yourself such as your age, ethnic origin and mental health diagnosis (if applicable). You will also be asked to report if you have ever engaged in a critical incident such as a hostage taking, a barricade or a protest. If you have, then you will be asked to tell us roughly when the most recent event took place.

██████████ will only collect information from you for this research study in accordance with our instructions. ██████████ will keep your name and contact details confidential and will not pass this information to The University of Central Lancashire. ██████████ will use this information as needed, to contact you about the research study, and make sure that relevant information about the study is recorded for your care, and to oversee the quality of the study. Certain individuals from The University of Central Lancashire and regulatory organisations may look at your research records to check the accuracy of the research study. The University of Central Lancashire will only receive information without any identifying information. The people who analyse the information will not be able to identify you and will not be able to find out your name or contact details.

██████████ will delete identifiable information about you from this study after the study has finished.

If you agree to take part in this study, you will then be asked to answer some questions about yourself. You will be asked to complete 6 short questionnaires that should take you around **45 minutes** in total.

As a part of this, the questionnaires will explore a range of areas, including:

- **Personality characteristics:** this may include positive or helpful personality traits that help you to adjust to a situation and also personality traits that are considered less helpful (for example, which may negatively impact your relationships with others;
- **Problem solving style;**
- **Resilience;**
- **Strengths and protective factors.**

The questionnaires may include psychometric assessments, which are validated tools used to measure thoughts, feelings, attitudes, and behaviours. The information obtained from these assessments will only be used for the purpose of health and care research, and cannot be used for diagnostic purposes, to contact you, or to affect your care.

Once you have completed the research, you will be given a debrief sheet which will offer contact details for the researchers should you have any further questions.

Some people find that talking about critical incidents can be an emotionally difficult topic. If you do find this to be the case, then please feel free to withdraw from the research at any point until two weeks after submitting your completed responses. Researchers will not ask why you want to withdraw from the research, although they will direct you to staff member who can support you. Any data that you have provided up to this point will then be destroyed and will not be used in the final write up of the study.

If you feel that this research has affected you in any way and you would like to discuss this, please speak to a staff member.

Why am I being asked to take part?

Those who have and those who have not taken part in a critical incident are invited to take part in the study. Therefore, you do not need to have taken part in a critical incident in order to take

part in this research. It is felt that you are settled enough to take part in the research if you wish to do so. If this changes whilst the data is being collected, then no further information will be collected from you.

Do I have to take part?

Your participation in this study is entirely voluntary; therefore, you don't have to take part. If you do decide to take part, you will be asked to sign a consent form and you will be given a copy to keep for your own records. **If you agree to take part and then change your mind you can just let us know, as long as you inform us before two weeks after submitting your completed responses.** This is so that we can make sure you are removed from the final sample. **If you decide that you would like to withdraw from the study after your completed responses have been submitted, then please inform the researcher within two weeks of completing the research.**

You don't have to agree now. A member of the research team will agree a time to come back to speak to you within the next two weeks if you would like to think about taking part.

Anonymity and confidentiality

Everyone who takes part will be given a 'research number' which will be written on the information collected instead of your name. Only the research team will have access to the names of the people taking part in the research. This list of names will be destroyed once the research is completed.

The only exception to confidentiality is if, during the completion of the questionnaires, information is disclosed to the research team which suggests that you have committed an unreported crime, are about to engage in a behaviour that will be a risk to yourself or others, or disclose information suggesting another individual has or is about to engage in such behaviour. In such case this information will be passed on to security staff members. **This does not include your answers on the questionnaires. The research team are not inviting disclosures of future behaviours or past criminal offences.**

Security of information obtained

All paper information will be kept secure in a locked filing cabinet at [REDACTED] [REDACTED] or Ethical Officers may look at the information held (for example, to check whether everyone has given written consent), but this is to protect participants as well as checking the researchers have completed everything they have agreed to.

What will happen to the results of the research study?

All collected data will be analysed. Participants will never be named and your information will only be one part of a large group of data. This information will not identify you and will not be combined with other information in a way that could identify you. The information will only be used for the purpose of health and care research, and cannot be used to contact you or to affect your care. It will not be used to make decisions about future services available to you, such as insurance. Findings will be presented in the researcher's postgraduate research thesis. Results may also be presented at conferences and in scientific peer review journals. At the end

of the study, the group findings of this research will be shared in the newsletter.

What will we do with your data?

The University of Central Lancashire is the sponsor for this study based in Preston, Lancashire, UK. We will be using information from you in order to undertake this study and will act as the data controller for this study. This means that we are responsible for looking after your information and using it properly. The University of Central Lancashire will not keep any identifiable information about you after the study has finished.

Your rights to access, change or move your information are limited, as we need to manage your information in specific ways in order for the research to be reliable and accurate. If you withdraw from the study, we will keep the information about you that we have already obtained. To safeguard your rights, we will use the minimum personally-identifiable information possible.

You can find out more about how we use your information by contacting a member of the research team (details below).

Further information

Further information on this study can be obtained at any time from the following:

Kimberley McNeill

[Redacted contact information for Kimberley McNeill]

Or,

Dr. Carol A. Ireland

[Redacted contact information for Dr. Carol A. Ireland]

Alternatively, you can ask a staff member to contact any of the research team by email.

If you have any concerns about the research that you do not wish to speak with the researcher about directly, you should contact a staff member who can help you.

If you have any concerns about the research that need to be addressed by someone independent from the research team, please ask a staff member to contact the University Officer for Ethics: OfficerForEthics@uclan.ac.uk on your behalf.

Thank you for taking the time to read this information.

RESEARCH CONSENT FORM

Name: _____

ENGAGEMENT IN CRITICAL INCIDENTS: AN EXPLORATION OF INDIVIDUAL CHARACTERISTICS AND BACKGROUND FACTORS.

Lead Researcher: Kimberley McNeill

I have read and understood the participant information (V3) sheet dated October 2019, for the above research and have had opportunity to ask questions.

..... (participant initial)

I feel that I have a suitable understanding of the English language and therefore have no concerns about my ability to understand this research.

..... (participant initial)

I understand that my participation is voluntary and that I am free to withdraw from this research, without giving any reason **at any point up until two weeks after submission of my completed questionnaires**. If I choose to withdraw from the research before this point, then all of my data will be destroyed and will not be included in the final write up.

..... (participant initial)

I understand that all information relating to myself obtained as part of the research will remain anonymous to those outside of the research team, and that I will not be personally identified in the final report. However, I understand that if I report information indicating a threat to others e.g. if I disclose a previously unreported crime or a possible or future crime, or indicate that I am about to engage in a behaviour that will be a risk to myself or others, or disclose information suggesting another individual has or is about to engage in such behaviour, that this will be reported to a staff member who deals with security matters.

..... (participant initial)

I understand that no personal information obtained during the course of the research relating to myself will be disclosed to other patients or prisoners.

..... (participant initial)

I understand that the research write-up will only look at group data and that I will not be identified.

..... (participant initial)

I understand that the research will be used as part of a further research degree qualification.

..... (participant initial)

I understand that this consent form may be seen by responsible individuals from [redacted] and the University of Central Lancashire for the purposes of monitoring research procedures. I understand that this is for audit purposes only to ensure that my consent has been obtained.

..... (participant initial)

I (please print name) agree to be involved in the research carried out by [redacted] and the University of Central Lancashire and I am satisfied that the purpose and procedures of the research have been fully explained to me.

Signed:(Participant) **Date:**.....

Signed:(Researcher) **Date:**.....

PLEASE ANSWER THE FOLLOWING QUESTIONS

Have you ever (throughout your lifetime) engaged in a critical incident including hostage taking, barricading and/or protest?

Yes No

If yes, approximately when was this? (If there is more than once incident then please indicate the most recent critical incident).

.....

How old are you? (circle one):

21 - 25 26 - 31 32 - 36 37-41 42 - 46 47 - 51 52 - 56 57-61 over 61

What is your ethnic origin? (circle one):

WHITE MIXED ASIAN/ASIAN-BRITISH BLACK/BLACK-BRITISH

CHINESE OR OTHER ETHNIC GROUP

What is your diagnosis? (circle one):

Personality Disorder (PD)

Personality Disorder AND Mental Illness (PD + MI)

Mental Illness (MI)

No current diagnosis

MEASURES

Social Problem-Solving Inventory - Revised (SPSI-R; D’Zurilla Nezu & Maydeu-Olivares, 2002)

THIS QUESTIONNAIRE IS OMITTED DUE TO COPYRIGHTING LAWS

The 50-item International Personality Item Pool (IPIP) representation of the Goldberg (1992) markers for the Big-Five factor structure (Goldberg, 1999; Goldberg et al., 2006)

Instructions

On the following pages, there are phrases describing people's behaviours. Please use the rating scale below to describe how accurately each statement describes you.

Very Inaccurate	Moderately Inaccurate	Neither Accurate nor Inaccurate	Moderately Accurate	Very Accurate
1	2	3	4	5

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.

Please read each statement carefully, and then circle the number that corresponds to your reply.

Very Inaccurate	Moderately Inaccurate	Neither Accurate nor Inaccurate	Moderately Accurate	Very Accurate
1	2	3	4	5

1	I am the life of the party.	1	2	3	4	5
2	Feel little concern for others.	1	2	3	4	5
3	Am always prepared.	1	2	3	4	5
4	Get stressed out easily.	1	2	3	4	5
5	Have a rich vocabulary.	1	2	3	4	5
6	Don't talk a lot.	1	2	3	4	5
7	Am interested in people.	1	2	3	4	5
8	Leave my belongings around.	1	2	3	4	5
9	Am relaxed most of the time.	1	2	3	4	5
10	Have difficulty understanding abstract ideas.	1	2	3	4	5
11	Feel comfortable around people.	1	2	3	4	5
12	Insult people.	1	2	3	4	5
13	Pay attention to details.	1	2	3	4	5
14	Worry about things.	1	2	3	4	5
15	Have a vivid imagination.	1	2	3	4	5
16	Keep in the background.	1	2	3	4	5
17	Sympathize with others' feelings.	1	2	3	4	5
18	Make a mess of things.	1	2	3	4	5
19	Seldom feel blue.	1	2	3	4	5
20	Am not interested in abstract ideas.	1	2	3	4	5
21	Start conversations.	1	2	3	4	5
22	Am not interested in other people's problems.	1	2	3	4	5
23	Get chores done right away.	1	2	3	4	5
24	Am easily disturbed.	1	2	3	4	5
25	Have excellent ideas.	1	2	3	4	5
26	Have little to say.	1	2	3	4	5
27	Have a soft heart.	1	2	3	4	5
28	Often forget to put things back in their proper place.	1	2	3	4	5
29	Get upset easily.	1	2	3	4	5

30	Do not have a good imagination.	1	2	3	4	5
31	Talk to a lot of different people at parties.	1	2	3	4	5
32	Am not really interested in others.	1	2	3	4	5
33	Like order.	1	2	3	4	5
34	Change my mood a lot.	1	2	3	4	5
35	Am quick to understand things.	1	2	3	4	5
36	Don't like to draw attention to myself.	1	2	3	4	5
37	Take time out for others.	1	2	3	4	5
38	Shirk my duties.	1	2	3	4	5
39	Have frequent mood swings.	1	2	3	4	5
40	Use difficult words.	1	2	3	4	5
41	Don't mind being the centre of attention.	1	2	3	4	5
42	Feel others' emotions.	1	2	3	4	5
43	Follow a schedule.	1	2	3	4	5
44	Get irritated easily.	1	2	3	4	5
45	Spend time reflecting on things.	1	2	3	4	5
46	Am quiet around strangers.	1	2	3	4	5
47	Make people feel at ease.	1	2	3	4	5
48	Am exacting in my work.	1	2	3	4	5
49	Often feel blue.	1	2	3	4	5
50	Am full of ideas.	1	2	3	4	5

Resilience Scale for Adults (RSA; Friborg et al., 2005)

Please read each statement and the corresponding positive and a negative statement that follows. Please identify your response by placing a tick in the box that closest describes how you are in general.

Personal strength/Perception of self

- 1) When something unforeseen happens ...
I always find a solution I often feel bewildered
- 2) My personal problems ...
are unsolvable I know how to solve
- 3) My abilities ...
I strongly believe in I am uncertain about
- 4) My judgements and decisions ...
I often doubt I trust completely
- 5) In difficult periods I have a tendency to ...
view everything gloomy find something good that helps me thrive
- 6) Events in my life that I cannot influence ...
I manage to come to terms with are a constant source of worry/concern

Personal strength / Perception of future

- 7) My plans for the future are ...
difficult to accomplish possible to accomplish
- 8) My future goals ...
I know how to accomplish I am unsure how to accomplish
- 9) I feel that my future looks ...
very promising uncertain
- 10) My goals for the future are ...
unclear well thought through

Semi structured style

- 11) I am at my best when I ...
have a clear goal to strive for can take one day at a time
- 12) When I start on new things/projects ...
I rarely plan ahead, just get on with it I prefer to have a thorough plan
- 13) I am good at
organising my time wasting my time
- 14) Rules and regular routines

are absent in my everyday life simplify my everyday life

Social competence

- 15) I enjoy being ...
together with other people by myself
- 16) To be flexible in social settings ...
is not important to me is really important to me
- 17) New friendships are something ...
I make easily I have difficulty making
- 18) Meeting new people is ...
difficult for me something I am good at
- 19) When I am with others ...
I easily laugh I seldom laugh
- 20) For me, thinking of good topics for conversation is ...
difficult easy

Family cohesion

- 21) My family's understanding of what is important in life is ...
quite different than mine very similar to mine
- 22) I feel ...
very happy with my family very unhappy with my family
- 23) My family is characterised by ...
disconnection healthy coherence
- 24) In difficult periods ...
my family keeps a positive outlook on the future views the future
as gloomy
- 25) Facing other people, our family acts ...
unsupportive of one another loyal towards one another
- 26) In my family we like to ...
do things on our own do things together

Social resources

- 27) I can discuss personal issues with ...
no one friends/family-members
- 28) Those who are good at encouraging me are ...
some close friends/family members nowhere
- 29) The bonds among my friends are ...
weak strong

- 30) When a family member experiences a crisis/emergency...
I am informed right away it takes quite a while before I am told
- 31) I get support from ...
friends/family members No one
- 32) When needed, I have ...
no one who can help me always someone who can help me
- 33) My close friends/family members ...
appreciate my qualities dislike my qualities

Level of Personality Functioning Scale-Brief Form (LPFS-BF; Hutsebaut et al., 2016).

Please report which of the following statements apply to you. Only circle 'yes' if this has been the case for at least a year.

I often do not know who I really am	Yes/No
I often think very negatively about myself	Yes/No
My emotions change without me having a grip on them	Yes/No
I have clear aims in my life and succeed in achieving those	Yes/No
I often do not understand my own thoughts and feelings	Yes/No
I am often very strict with myself	Yes/No
I often have difficulty understanding the thoughts and feelings of others	Yes/No
I often find it hard to tolerate it when others have a different opinion	Yes /No
I often do not fully understand why my behaviour has a certain effect on others	Yes/No
My relationships and friendships never last long	Yes/No
There is almost no one who is really close to me	Yes/No
I often do not succeed in working cooperatively with others in an equal way	Yes/No

QUESTIONNAIRE: PAPA

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Instructions

Below are a series of statements that people use to describe themselves. Please read each statement carefully. Using the scale provided decide how well each statement describes how you have generally been throughout your life.

Scale:

Very unlike me	Not really like me	Neither agree or disagree	Somewhat like me	Very like me
1	2	3	4	5

1. I am only interested in myself.	1	2	3	4	5
2. I will use people to get what I want.	1	2	3	4	5
3. I often take chances that could be risky to me or others.	1	2	3	4	5
4. I often don't think of the consequences of my actions.	1	2	3	4	5
5. As a person, I have never changed.	1	2	3	4	5
6. I have been described as a cruel person who does not worry about hurting others.	1	2	3	4	5
7. Others would describe me as an irritable person with problems controlling my temper.	1	2	3	4	5
8. I see a lot of hostility around me.	1	2	3	4	5
9. I regularly view others as lazy.	1	2	3	4	5
10. I find most people are weak and not worth bothering with.	1	2	3	4	5
11. I find it impossible to resist temptation.	1	2	3	4	5
12. I often get into trouble more than others.	1	2	3	4	5
13. I find it difficult to comfort others when they are upset.	1	2	3	4	5
14. I am not that bothered about others.	1	2	3	4	5
15. The world is a threatening place, you have to 'watch your back'.	1	2	3	4	5
16. I often feel in touch with other people's feelings.	1	2	3	4	5
17. If I am caught out on a lie I can quickly think of a way out.	1	2	3	4	5
18. I often experience strong positive emotions, such as happiness and joy.	1	2	3	4	5
19. I am able to commit a wide number of behaviours that, if caught, would get me into trouble.	1	2	3	4	5
20. I can often find myself viewing others as nothing more than 'objects' or things to be used.	1	2	3	4	5

21. I am an aggressive person in a number of situations.	1	2	3	4	5	
22. I use illegal drugs, or those that are not prescribed to me, more than most people I know.		1	2	3	4	5
23. I find it difficult to give emotional and personal support to others.		1	2	3	4	5
24. If I do something wrong I will feel bad about it.		1	2	3	4	5
25. I often find myself thinking that I am more important than others.	1	2	3	4	5	
26. I always accept responsibility for what I do.	1	2	3	4	5	
27. I often find people behave aggressively or in a hostile manner towards me.		1	2	3	4	5
28. Others would describe me as a very intense person who has difficulty getting on with others.	1	2	3	4	5	
29. As a child I often got into trouble more than others.		1	2	3	4	5

The SAPROF – Interview Self- Appraisal (ISA), (de Vries Robbé & de Vogel, 2014).
Modified by researcher (with permission from the author) for use in questionnaire format.

SAPROF Questionnaire Self-Appraisal

This questionnaire looks at items which are used in the assessment of protective factors. Protective factors include skills, strengths, resources, social supports, and coping strategies that help individuals to deal better with stressful events. The questions follow directly from the SAPROF, a tool for the assessment of protective factors for violence risk.

The researcher will discuss the specified time frame with you before you answer the questions. Please answer all questions as honestly as possible. You will not be identified on the form. All replies are completely anonymous.

The specific time frame that you should consider when answering all of these questions is:

Or

Over the past six months

Internal items

The following five questions relate to your personal characteristics, which provide protection against future violent behaviour.

1. Intelligence

My level of intelligence was:

- Very above average
- Above average
- Average
- Below average
- Very below average

2. Secure attachment in childhood

A warm, loving, accepting relationship with one or more prosocial adults was present before the age of 18 years old.

- Extremely present
- Somewhat present
- Present to some extent
- Somewhat absent
- Extremely absent

Please rate the next items using the following scale:

1	2	3	4	5
Strongly Disagree	Disagree somewhat	Neither agree nor disagree	Agree somewhat	Strongly agree

3. Empathy

- a) I cared about other people's feelings.
 1 2 3 4 5
- b) I did not understand how other people were feeling.
 1 2 3 4 5
- c) I felt guilty that my actions were distressing for others.
 1 2 3 4 5

4. Coping

- a) I had good problem solving skills.
 1 2 3 4 5
- b) I did not deal well with problems or stressful events that I encountered.
 1 2 3 4 5
- c) I was able to tell others and/or seek support if I had a problem that I couldn't solve alone.
 1 2 3 4 5

5. Self-control

- a) I was able to control my behaviour and my temper.
 1 2 3 4 5
- b) I was unable to stay calm in stressful situations.
 1 2 3 4 5
- c) I often reacted without thinking.
 1 2 3 4 5

Motivational items

The following questions concern protective factors that relate to your motivation to take part in treatment and to be a positive member of society in general.

6. Work (please leave blank if you were in services prior to employment age)

- a) I had stable and suitable employment (paid or unpaid).
 1 2 3 4 5
- b) I did not have employment that matched my skills and abilities.
 1 2 3 4 5
- c) Work provided me with regular structure and routine.
 1 2 3 4 5

7. Leisure activities

- a) I took part in regular structured leisure activities with others (e.g. sports teams, clubs, activity groups).
 1 2 3 4 5
- b) I enjoyed the leisure activities that I took part in.
 1 2 3 4 5

- c) I did not spend my leisure time well.
- | | | | | |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|

8. Financial management

- a) I did not have a regular income (income may be from employment, social benefits or an allowance).
- | | | | | |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
- b) I was able to pay for my accommodation and other basic needs on my own.
- | | | | | |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
- c) I had debts with official authorities/ other money lenders (excluding loans and mortgage).
- | | | | | |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
- d) I was always careful when it came to money and did not spend it without thinking first.
- | | | | | |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|

9. Motivation for treatment

- a) I worked with professionals regarding my use of violence.
- | | | | | |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
- b) I was open to changing my violent behaviour.
- | | | | | |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
- c) I did not want to take part in treatment to address my use of violence.
- | | | | | |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|

10. Attitudes towards authority

- a) I did not have a positive attitude towards authority (for example the police, courts, supervisors and employers).
- | | | | | |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
- b) I was able to comply with rules, agreements and conditions put in place by authority.
- | | | | | |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
- c) I thought that breaking the law was acceptable.
- | | | | | |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|

11. Life goals

- a) I had clear positive life goals which gave me extra motivation to do well.
- | | | | | |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
- b) My positive life goals could not help me stay out of trouble.
- | | | | | |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
- c) I had a sense of purpose and hope for the future.
- | | | | | |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|

12. Medication

I was prescribed medication for my behaviour by a psychiatrist or doctor during the specified time frame (*for example: antipsychotics, antiandrogens (hormone blocking), antidepressants, beta blockers or any other medication that had a positive effect on behaviour*).

Yes (answer below questions) No (if no, go to item 13)

- a) The medication did not work effectively.
- | | | | | |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
- b) I was motivated to take my medication and was compliant as prescribed.
- | | | | | |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
- c) I could not accept the side effects of my medication.
- | | | | | |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|

External items

The following statements concern protective factors from external or 'outside' sources. This concerns support from your environment, both voluntary and mandatory.

13. Social network

- a) I did not have prosocial friends and/or family.
1 2 3 4 5
- b) My friends and/or family provided support to me when I needed it.
1 2 3 4 5
- c) My friends and/or family had a positive attitude towards crime and the use of violence.
1 2 3 4 5

14. Intimate relationship (please leave blank if you have never had an intimate relationship)

- a) I had a stable intimate/romantic relationship that had lasted at least 6 months.
1 2 3 4 5
- b) I had problems within my intimate/romantic relationships during the specified time frame.
1 2 3 4 5
- c) My romantic/intimate partner had a negative attitude towards crime and the use of violence
1 2 3 4 5

15. Professional care

I received professional mental health care during the specified time frame (*this can include mental health care professionals who work in psychiatry, psychology, addiction care, probation officers and social workers. This does not include self-help groups*).

Yes (answer below questions) No (if no, go to item 16)

- a) The mental health treatment I received was regular and took place at least once a week.
1 2 3 4 5
- b) The mental health treatment I received was not appropriate for me or my situation.
1 2 3 4 5
- c) I had enough support in terms of mental health treatment.
1 2 3 4 5

16. Living circumstances

- a) I did not live in a supervised environment (such as a prison or psychiatric facility).
1 2 3 4 5
- b) I lived with related others (such as family members or partner).
1 2 3 4 5
- c) The environment that I lived in was supervised by mental health professionals.
1 2 3 4 5

17. External control

a) I was not subject to a court order that imposed treatment, imprisonment, or probation contact during the specified time frame.

1 2 3 4 5

b) I was under intense or permanent clinical control (such as in a psychiatric unit or prison)

1 2 3 4 5

c) I was under supervision carried out in the community (e.g., by a probation service or outpatient facility)

1 2 3 4 5

PARTICIPANT DEBRIEF SHEET

On behalf of [REDACTED] and the University of Central Lancashire, we would like to take this opportunity to thank you for your time in helping us complete this research. As noted in the information sheet, this research looked at individual and background factors associated with engagement in critical incidents (such as barricades, protest, and hostage incidents).

As a part of this, the questionnaires explored a range of areas, including:

- Diagnosis and demographic information;
- Personality characteristics (unhelpful and caring), including psychopathic traits;
- Problem solving style;
- Resilience;
- Strengths and protective factors.

The information provided by you will contribute to understanding about the reasons that people may or may not engage in critical incidents. It is hoped that such information will contribute to a model that can be used by negotiators prior to, during and after critical incidents.

If you have any questions relating to the research that you have taken part in, please do not hesitate to contact a member the research team (details below).

Kimberley McNeill

[REDACTED]

Dr. Carol A. Ireland

[REDACTED]

If this research has affected you in any way and you would like to discuss this, please speak to your named nurse.

Please remember that all the information you have provided is anonymous and you will never be personally identified in any document that is released about this research. At the end of the study, the group findings of this research will be shared in the patient newsletter.

If you have any complaints or questions regarding the study, you can ask to speak to the researcher. If you do not want to speak to the researcher, you may like to contact Dr Carol Ireland who is the Director of Studies.

You are free to withdraw from this research up to two weeks after submitting your final completed questionnaires and all of your data will be destroyed.

Thank you once again for your time.

APPENDIX 4: A SUMMARY TABLE ACCOUNTING FOR EACH IDENTIFIED DIMENSION AND THE RELATIVE CONTRIBUTION OF EACH STUDY

Pathway	Dimension	Variable	Study variable identified in			
			1	2	3	4
Vulnerability	Internal Vulnerability Factors	Past experience of critical incidents	X		X	
		Recent decline in stable functioning			X	
		Challenges with emotion regulation	X		X	
		Subjective or objective strain	X	X	X	
		Problem solving and coping deficits	X		X	
		History of maladaptive coping	X		X	
		Psychopathology impacting on functioning	X	X	X	
		Persistent pattern of negative thinking				
		Antisocial self-identity, beliefs, and cognitions				
		Extraversion impacting on functioning				X
		Perception of disempowerment	X	X	X	
		High negative emotionality	X	X	X	
		Negative beliefs about self or others	X		X	
	Non resilient thinking styles			X		
	Low psychological resilience			X		
	Experience of acute emotion	X	X	X		
	External Vulnerability Factors	Loss of control or autonomy within environment	X	X	X	
		Criminal history	X	X	X	
		History of critical incident engagement	X	X	X	
		Dissocial tendencies	X	X	X	X
		Significant/negatively perceived event	X	X	X	
	Negative Social-Environmental Factors	Perceived increased threat within environment	X	X		

		Presence of negative social interactions	X		X	
		Weakened social bonds and cohesion	X	X	X	
		Reduced opportunity for social connection				
		Absence of positive environmental stimulation	X	X		
		Increased environmental stress	X	X	X	
		Lack of access to required professional support		X	X	
		Restriction of access to activities/rights	X	X	X	
Protective/Promotive	Protective/Promotive Factors	Inhibitory cognitions		X		
		Skills to legitimately meet needs		X		X
		Increased psychological resilience				
		Pro social self-identity				
		Pro social beliefs, values, and relationships		X		X
		Recognition of significance to others		X		
		Sense of affinity/community belonging		X		
		Cognitive flexibility		X		
		Emotion regulation skills		X		X
		Distress tolerance skills		X		X
		Sense of purpose		X		X
		Sense of morality			X	
		Interpersonal effectiveness		X		
		Skills in risk appraisal		X		
	Positive Social-Environmental Factors	Safe and supportive environment		X		X
		Enhanced sense of community		X		
		Availability of pro social support		X		X
		Access to meaningful activity		X		
		Environmental stability and predictability				
Motivating Factors	External Motivating Factors	Communicate and make others listen and act	X	X	X	

		Seek deliberate isolation from others		X	X	
		Challenge a perceived injustice	X	X	X	
		Gain access to support		X	X	
		Incite fear in others			X	
		Seek retribution for perceived injustice/wrongdoing	X	X	X	
		Achieve as specific goal / predetermined goal	X	X	X	
	Internal Motivating Factors	Meet primary needs/goals	X	X	X	
		Overcome barriers to achieving goals	X	X	X	
		Enhance perception of competence	X	X	X	
		Increase sense of connection / relatedness	X	X		
		Cope with or remove strain	X	X	X	
		Demonstrate competence or status to others	X	X	X	
		Establish a sense of power	X	X	X	
		Gain positive emotions	X	X	X	
		Remove negative emotions	X	X	X	