Intent to Aggress in Forensic Settings

by

Polly Turner

A thesis submitted in partial fulfilment for the requirements for the degree of
Doctor of Philosophy at the University of Central Lancashire

February 2015

DECLARATION

I declare that no material contained in the thesis has been used in any other submission for an academic award and is solely my own work

Signature of candidate

Type of award

PhD

School

Psychology

ABSTRACT

This PhD examines the role of individual and environmental characteristics in the intent to aggress, resulting in the development of a model to understand the intent to aggress in forensic settings. Study one focused on individual characteristics of aggressors in a prison sample of adult men (n=200). The study confirmed the importance of personality traits and beliefs in engagement in aggression in forensic settings. Aggressors reported low levels of agreeableness and high neuroticism and greater aggressive supportive beliefs, although the variance explained by personality traits and beliefs was low. Study two therefore aimed to examine other factors potentially of relevance, specifically environmental factors. Staff from two Young Offender sites (n=103), one closed and one open, participated. The results confirmed the influence of the physical and social aspects of the secure setting over attitudes and responses to aggression; the more secure physical environment was found to associate with negative attitudes towards prisoners and pro-aggressive attitudes. Attitudes were thus found to be important factors in the response to aggression. The final study aimed to combine both individual characteristics (e.g., beliefs, fear and personality) and environmental factors in a single study using prisoners (n=427) and staff (n=78) from one category B establishment housing adult men. Examination of emotion was lacking from study one and was therefore included in study three. The results confirmed the importance of beliefs via a moderating effect of fear. Greater perceptions of the threat in the forensic setting differentiated between aggressors and those not involved in aggression. The findings of the three studies were combined with existing theoretical frameworks and suggested two different pathways to increased aggression and one for the inhibition of aggression. These three pathways are presented via the Model of Intent to Aggress in Secure Settings (MIA-SS).

CONTENTS

LIST OF TABLES

LIST OF FIGURES

ACKNOWLEDGEMENTS

Chapter 1

SETTING THE SCENE

_____

The aim of this thesis is to examine the factors influencing decisions to use aggression in a forensic context and the factors underpinning the intent to aggress. Intent has been defined in the Oxford Dictionary as "*having ones mind fixed on some purpose*" (Oxford Dictionary, 1994). Thus intent to aggress would be conceptualised as purposefully acting aggressively rather than merely behaving in a manner which inadvertently causes harm to others (Kinsella & Tinsley, 2004). In terms of the intent to aggress, it is the individual and environmental factors outlined that are significant in existing general aggression models (e.g., Anderson & Carnagey, 2004; Crick & Dodge, 1994; Huesmann, 1998; Slotter & Finkel, 2011) and associated forensic literature (e.g., Ireland, 2012; Steinert & Whittington, 2013) which will form the focus of this thesis.

Traditional models of aggression such as the *Unified Social Information Processing Model* of Huesmann (1998) and the *General Aggression Model* (GAM; Anderson & Bushman, 2002) outline specific individual differences proposed to underpin aggression. Each model highlights the importance of cognitions, such as beliefs and attitudes, supportive of the use of aggression. Each model suggests a role for affect in the influence over selection of scripts, defined as a series of behavioural steps. These models move away from the notion of anger being the primary emotion contributing to aggression and consider all emotional experiences to be influential (Anderson & Carnagey,

2004; Huesmann, 1998; Lemerise & Arsenio, 2000). However, the general aggression models do not attend to the specific role of the environment. Aggression is a significant concern in forensic settings and it seems remiss to neglect the characteristics of the secure setting. Research has shown specific aspects of the physical and social climate in forensic settings to influence rates of aggression (Bierie, 2012; Gadon, Johnstone & Cooke, 2006). General aggression models do not account for such factors and thus are limited in their ability to explain the choice to aggress in the forensic setting.

Early criminological models such as the *Deprivation Model* (Goffman, 1961) argued that the prison setting (i.e., the environmental characteristics of the prison) was responsible for violence in the prison. It was proposed that those housed in the oppressive conditions of prison would be likely to use aggression when faced with removal of freedoms and privileges. The Deprivation Model developed based on the notion of prisons as closed social system (Morgan, 2002) and thus study was focused on the environment to understand the behaviour within it. Whilst this enabled research to identify influential aspects of the physical and social environment it neglected the role of individual differences of those housed in forensic settings.

This exclusive focus on the setting, however, does not account for the important individual characteristics common amongst those housed in secure settings. Not all those housed in prisons choose to act aggressively and thus equal attention needs to be paid to individual characteristics.

In order to address the role of both individual characteristics and the environment, models of aggression in forensic settings have been developed which attend equally to the role of individual differences and environmental influences. Such models include the *Multifactor Model of Bullying in Secure Settings* (MMBSS; Ireland, 2012) and the *Bio-Psycho-Social Model of Violence* (Steinert & Whittington, 2013), with the latter model designed to account for violence in mentally disordered offenders. Whilst such models explain the intent to aggress in forensic settings, the pathways proposed to lead to aggression have yet to be tested. This first aim of this thesis is to examine the individual characteristics and environmental factors which best explain the intent to aggress in forensic settings, using the MMBSS as a framework to guide examination of specific aspects. Examination of these factors will guide development of a model to then explain the intent to aggress.

A second aim of this thesis is to consider the role of individual and environmental factors in the decision *not* to aggress. The Bio-Psycho-Social Model of violence includes focus on inhibitory factors, an aspect absent from many general aggression models. *I³ theory* (Slotter & Finkel, 2011) however is an aggression model which attends to the role of inhibitory factors. This model was designed to account for intimate partner violence and has not been applied to other forms of aggression. Thus this thesis will also attempt to utilise the insights from the I³ theory framework to examine the influence of individual differences and environmental characteristics in those who choose not to aggress.

The following chapters present an overview of the concept of aggression, individual differences in aggression and the role of the social and physical environment to identify those aspects shown to relate to the use of aggression. Research evidence will be considered as to the role of specific individual differences, such as cognition and personality, and environmental characteristics, both physical and social, promoting aggressive intent in forensic settings. The MMBSS framework guides the review of the individual characteristics and environmental factors.

In summary, this thesis will examine the influence of individual characteristics and environmental factors in forensic samples in three studies. The first study will examine core individual variables associated with aggression to inform development of a model to explain intent to aggress. The second study will examine the role of the social and physical environment to add to the model developed in the first study. Finally, the influence of *both* individual and environmental characteristics shown to be important in stages one and two will be tested in a single study to produce a model of intent to aggress in forensic settings.

Chapter 2

UNDERSTANDING AGGRESSION

2.1   Structure of the chapter

This chapter aims to summarise what we understand by the term aggression. The chapter will then consider existing theory and models which seek to explain the factors related to an individual's choice to use aggression.

2.2   Defining aggression

Before the factors influencing the choice to aggress can be examined it is important to clarify what forms of behaviour may be judged aggressive. Berkowitz (1993) highlights difficulty in obtaining a standard definition of aggression in the research literature; many accept it refers to "*any form of behaviour that is intended to injure someone physically or psychologically*" (p3). There is no clear consensus regarding an operational definition of aggression, with over 200 definitions in existence creating difficulties in how aggression is measured (Ireland, 2011a; Parrott & Giancola, 2007). Bandura (1978) proposes that behaviour is classified as aggressive depending on judgements relating to intentionality and causality. That is, if a person is judged responsible for their actions *and* appears to have intended to inflict harm then the act tends to be viewed as aggressive. Further, it is the intent to harm and *not* the actual consequences which is argued to determine an act as aggressive (Krahé,

2013). This is important as a victim may successfully act to prevent an act of aggression but this does not negate the aggression perpetrated by the aggressor or the harm the aggressor sought to inflict.

Not all intentional behaviours which cause harm to others can be classed as aggression (Bandura, 1978). For example, medical professionals knowingly cause patients harm, such as a dentist inflicting pain during a routine medical procedure, but this would not be considered an aggressive act as the patient is consenting to the procedure and the intent is not to harm per se (Anderson & Bushman, 2002; Blackburn, 1993; Ireland, 2011a). Thus, a definition of aggression should capture intent to inflict harm *and* consideration of an unwilling victim (Baron & Richardson, 1994; Blackburn, 1993; Krahé, 2013; Parrott & Giancola, 2007). The following definition incorporates both elements,

> "*Human aggression is any behaviour directed toward another individual that is carried out with the proximate (immediate) intent to cause harm. In addition, the perpetrator must believe that the behaviour will harm the target, and that the target is motivated to avoid the behaviour*" (Anderson & Bushman, 2002, p28).

Whilst intent to harm remains important, this definition introduces the concept of proximate and ultimate goals, with intent to harm not necessarily being the *only* aim. This highlights the fact that aggression can serve a range of functions in addition to inflicting harm. Motivation for aggression will be considered later in this chapter.

Researchers have noted the importance of conceptualising aggression as *behaviour* and not cognition or emotion (Baron & Richardson, 1994; Novaco,

2011). These aspects may underpin aggression but in themselves are not aggressive. Parrott and Giancola (2007) state that research has been complicated by viewing affective and cognitive constructs as the same as the act of aggression. The authors argue that the definition put forward by Anderson & Bushman (2002) earlier should be enhanced by also viewing *aggression as a behavioural process*, distinct from the associated constructs such as affect and cognition. Certain emotions and cognitions may underpin the choice to behave aggressively but do not necessarily lead to aggression. For example, anger (emotion) and hostility (cognition) may increase the likelihood of aggression but not in all situations. Therefore, if researchers explore anger and/or hostility in an attempt to understand aggression they may include factors not truly related to the use of aggression. However, that is not to say that affect and cognition should be ignored, rather they should be viewed as contributing factors.

Even when focus is on the act of aggression (i.e., behaviour) further complications arise in the labels used to describe the act. The literature makes a distinction between aggression and violence, with the latter representing an act with the intent to inflict extreme harm or severe consequences (see Archer; 1994; Bushman & Huesmann, 2010). DeWall and Anderson (2011) clarify that all acts of violence are captured by the Anderson and Bushman (2002) definition of aggression; however not all acts of aggression are judged violent. Nevertheless, the terms violence and aggression are often used interchangeably (Large & Nielssen, 2011), Indeed the World Health Organisation (WHO) favoured the term *violence* to encompass all acts of

aggression and violence in the World Report on Violence and Health. This report suggests the following definition,

> "*the intentional use of physical force or power, threatened or actual, against oneself, another person, or against a group or community, that either results in or has a high likelihood of resulting in injury, death, psychological harm, mal-development, or deprivation*" (Krug, Dahlberg, Mercy, Zwi & Lozano, 2002; p5).

In line with earlier definitions, the intent to inflict harm is a core feature of the above definition. What is explicitly included in this definition is the fact that the *threat* of enacting this behaviour is violent. Whilst other definitions make reference to the intent to inflict psychological harm as a form of aggression, the WHO definition highlights how the *threat* of performing a violent act is an aggressive act.

Krug et al (2002) also state that the use of the word 'power' by the WHO report extends the definition beyond physical aggression and also highlights the acts of omission (i.e., failing to act) by those in positions of power as acts of aggression. The definition adopted in the WHO report attempts to capture violence committed across cultures and societies as the purpose of the report was to examine all acts of violence committed all over the world.

Definitions of violence adopted by practitioners extend those outlined already from research to include recognition of *attempted or threatened* acts intended to instil fear and/or have the *potential* to cause harm. Practitioner perspectives are important to the current thesis as the research is conducted with clinical samples to advance clinical practice and knowledge.

Practitioners use a variety of tools to examine violence and aggression. The most commonly used tool to assess for risk for future violence is the Historical and Clinical Risk-20 (HCR-20; Douglas, Hart, Webster & Belfrage, 2013). The HCR-20 is a structured risk assessment guide, underpinned by evidence based literature to outline key risk factors related to the use of aggression. The definition of violence in this tool adds to existing definitions by considering the act as purposive. It encourages practitioners to view violence as goal directed behaviour, moving away from a notion that it may be a reflexive act. This is consistent with the research literature which does not consider aggression as accidental (Anderson & Bushman, 2002; Bushman & Huesmann, 2010).

Summary

What is clear is that there is no one agreed definition of aggression. Nonetheless, core themes emerge from the literature as follows.

1) For behaviour to be judged aggressive there should be intent to cause harm to others. Intent to harm may not be the only goal but the intent to harm must be present to be classed aggressive (Bandura, 1978; Berkowitz, 1993; Krahé, 2013).

2) Being described as an 'intention to harm' also infers that the behaviour is purposeful and not accidental (Anderson & Bushman, 2002; Bushman & Huesmann, 2010).

3) The harm inflicted may not be directly observable. That is, aggression can cause significant psychological harm, i.e., interfering with emotional, mental or cognitive states (Krug et al. 2002).

4) The act of aggression itself may not be observable and can include threats of harm and acts of omission, i.e., not preventing a person being harmed (Douglas et al, 2013; Krug et al, 2002).

5) The recipient or victim must be motivated to prevent the harm occurring and is therefore an unwilling recipient (Baron & Richardson, 1994; Blackburn, 1993; Krahé, 2013; Parrott & Giancola, 2007).

This thesis will adopt the Anderson and Bushman (2002) definition on page 6 as the core definition of aggression since this captures best the five core themes summarised here. The overarching themes from the previously noted definitions result in a large number of acts being classified as aggressive. The following section will review the many forms aggression can take to inform the study of aggressive acts within this thesis.

2.3   Forms of aggression

To permit further exploration and understanding of aggression, researchers have made efforts to subdivide the behaviours into categories. Krahé (2013) summarises some attempts to categorise aggressive acts based on, *form* of aggression (e.g., verbal, physical), *immediacy* (e.g., direct or indirect), *visibility* (e.g., covert or overt), *instigation* (e.g., proactive or reactive), *goal direction* (e.g., hostile or instrumental), *type of harm* (e.g., physical, psychological), *duration of effects*, *social units involved* (e.g., individual or group). However, clearly there exists overlap between and within categories. Parrott and Giancola (2007) also argue that none of the existing categories used to classify

aggression are without criticism, claiming that those which exist result in overlap and a lack of conceptual clarity.

One example is a framework proposed by Krug et al (2002) for the World Health Organisation study of world violence. The framework considers the types of aggression occurring around the world from small scale (i.e., person to person) to larger scale acts (i.e., aggression against societies). First, they divide behaviours into three categories according to the aggressor; *self-directed, interpersonal and collective*. Second, they consider the nature of the act; *physical, sexual, psychological and acts involving deprivation or neglect*. The authors argue that this framework captures nature, relevance of the setting, relationship between the aggressor and victim and possible reasons (motivations) for the aggression.

It appears that the core aspects included within the framework would permit researchers to understand more about aggression. For example, this approach encourages focus on aggressor and victim features. It is however questionable whether the framework truly captures the relevance of the environment and the reason for the aggression. It seems likely that there would be an overreliance on the form of aggression using this approach, neglecting to understand the reason for the act. Furthermore, the setting is not truly analysed with this approach. Rather it seems the interaction between the aggressor and the victim is the focus. The setting in which violence occurs needs attention, as aggression is a social behaviour where the context cannot be ignored. Environmental factors can facilitate and inhibit aggression in those prone to

using aggression and those who may not (Cooke & Johnstone, 2010). This example of one classification approach shows the limitations of existing classifications.

Krug et al do recognise the limitations of their framework but suggest that analysis of nature and motivation are fundamental to examine aggression. However there is no clear agreement in how to further define the aspects such as nature and motivation. This lack of clarity may complicate analysis of these concepts. The chapter will now examine the research findings available, first in terms of the nature of aggression and second, motivation.

Nature: Indirect and direct aggression

Bjorkqvist (2001) argues for the use of two different categories, 'direct' versus 'indirect' aggression. Direct refers to readily observable aggression such as hitting another person; whilst indirect is described as more subtle, with the aggressor being less identifiable such as spreading rumours to damage a person's reputation or ostracising a person from a social group (Archer & Coyne, 2005). Individuals who chose indirect acts are said to do so in an effort to avoid the costs of direct aggression (Krahé, 2013).

The term '*indirect aggression'* was first used by Feshbach in 1969 to refer to behaviours aimed at rejecting or excluding an individual (Card, Stucky, Sawalani, & Little, 2008). The term is said to encompass acts with the intent to

damage a person's self-esteem or social status or, put simply, to explain acts of social manipulation.

Others have referred to similar concepts such as '*relational aggression*' to include acts which differ to physical aggression, where the relationship "*serves as the vehicle of harm*" (Crick, Ostrov & Werner, 2006). The terms are said to represent the same concept (Bjorkqvist, 2001; Warren, Richardson & McQuillin, 2011). Archer & Coyne (2005) argued that whilst indirect, social and relational aggression each have a different focus, each form is an alternative to direct physical aggression. The current thesis will utilise the indirect-direct distinction as opposed to relational or social aggression. This is supported by Archer (2004) who pointed to the wealth of systematic research conducted examining indirect aggression. Adoption of the direct and indirect distinction is also chosen as the thesis is it will permit examination of all types of aggression enacted by adults.

The distinction between direct and indirect arose when it was argued that research into human aggression focused too heavily on overt physical forms of aggression, often neglecting covert or indirect forms of aggression. Neglecting covert forms of aggression would lead to an under representation of the frequency of aggression and would result in human aggression being poorly understood as physical aggression is only one type of aggression. In fact, Bandura (1978) argued that indirect aggression is more commonplace in society.

There is a wealth of research examining sex differences in aggression. The aim, however, of the current thesis is not to examine sex differences per se but to consider the patterns observed amongst incarcerated men. Higher rates of indirect aggression compared to direct aggression are not only observed in the general population but are consistently found in research using prisoner samples using men and women (Ireland & Ireland, 2008). Indirect acts frequently reported in prison studies include gossiping about other prisoners and deliberately ignoring peers (Ireland, 2002).

It seems therefore that utilising the distinction between direct and indirect aggression permits exploration of many more behaviours which may have a clear intent to harm, and may be more common in society but may not fit within more traditional views of aggression. Viewing the nature of aggression in this way extends existing approaches by considering *how* the aggressive act is performed. Researchers have suggested the reason for greater rates of indirect aggression is related to the development of social functioning skills.

For example, Bjorkqvist, Osterman and Lagerspetz (1994) examined developmental origins of aggression and propose early use of direct aggression in children is due to limited verbal skills, which, as they develop can be used as peaceful communication but also for aggressive acts. Thus it is argued that as we age, we also learn to be more subtle in how we use aggression, choosing less detectable ways of aggressing against others.

Conversely other studies have found indirect aggression to be significantly associated with *deficits* in functioning. Associations have been reported between indirect aggression and impulsive behaviour, limited personal control (Warren, Richardson & McQuillin, 2011) and personal distress and neuroticism (Richardson & Green, 2003). However deficits of this nature do not necessarily conflict with the previously discussed findings relating to social skills. That is, it is possible to be socially competent yet impulsive and emotionally unstable. Deficits in impulsivity and emotional control perhaps highlight stable trait factors underpinning aggression which would be present regardless of the level of social competence. It may be that deficits in these traits when combined with effective social functioning leads to indirect aggression.

There is evidence to suggest other stable traits underpin the use of indirect aggression. Research with clinical and nonclinical samples has also found a relationship between indirect aggression and psychopathy (Warren & Clarbour, 2009; Vaillancourt & Sunderani, 2011). Psychopathy is a disorder of personality consisting of interpersonal, affective, lifestyle and antisocial traits and behaviours such as deception, manipulation, shallow affect and poor behavioural control (Babiak et al, 2012). There is debate in the literature about whether criminal behaviour is central to this disorder. What is clear, however, is that psychopathy consistently predicts both general recidivism and violence (Andrews & Bonta, 2010; Douglas et al, 2013) and is therefore an important concept to examine. Whilst 'Psychopathy' per se is not a focus of this thesis, the thesis is examining traits linking to aggression and thus will consider aspects related to psychopathy.

Specifically the relationship with indirect forms of aggression seems to be between the interpersonal-affective components of psychopathy (e.g., low levels of empathy, anxiety and fear). Direct aggression is said to be more related to the lifestyle component of psychopathy (e.g., impulsive behaviour). This is an interesting finding as this contrasts with that reported by Warren et al (2011) who observed indirect aggression to relate to impulsivity in general samples. This is important as psychopathy is more prevalent in forensic settings and may highlight a difference in the use of aggression and personality amongst this population compared to general samples.

Whilst there is some evidence to suggest certain traits may lead to greater use of indirect aggression, all individuals have a choice over the nature of aggression. In seeking to understand *why* an individual may choose between direct or indirect aggression Bjorkqvist, Osterman and Lagerspetz (1994) refer to the 'effect-danger ratio'. The risk of retaliation is considered against the reward of aggression, with aggressors choosing an act with the lowest personal risk whilst inflicting the most harm possible. Thus, direct aggression may be seen as highly effective but involves high risk to the aggressor of being observed, whilst indirect aggression enables harm to be inflicted at low risk to the aggressor.

Ireland and Ireland (2008) argued that this principle was useful to understand aggression among forensic samples. Their study observed high rates of direct aggression, yet indirect was most common. The authors proposed prisoners may have a preference for indirect forms due to the greater risk of being

detected using direct aggression and being subject to social and organisational sanctions if detected. However, it may be argued that the explanation offered by Ireland and Ireland is very basic interpretation of intent and of limited value in furthering the understanding of the choice to use indirect versus direct forms of aggression in forensic settings.

Irrespective of which is most common, there is evidence of the distinction between direct and indirect acts in general and forensic populations (Ireland & Ireland, 2008). Therefore it seems the distinction between direct and indirect forms of aggression is a valuable one as this represents a commonly enacted form of aggression in adults (Bandura, 1978; Bjorkqvist, 2001). Using this distinction will ensure the most commonly enacted forms of aggression are examined and understood.

Thus, there is a developing consensus on what aggression should include, but the nature alone offers little to explain why it occurs. The motivations or reasons underlying aggression become important, particularly when it is already suggested that there is some conscious choice (i.e., effect-danger ratio: Bjorkqvist et al, 1994) over the nature of chosen aggression. Aggression motivation has been a focus of interest in recent years and assists with moving research away from an examination of typology alone.

Motivation: Proactive versus reactive aggression

Focusing on motivation, aggression motivation can be viewed as being either *proactive* or *reactive* (Crick & Dodge, 1996; Kockler et al, 2006; Ramirez & Andreu, 2006). *Proactive* refers to a planned use of aggression (also referred to as instrumental or goal-orientated) whilst *reactive* refers to an emotionally driven, impulsive act (also referred to as emotional or expressive aggression). Blackburn (1993) further describes proactive aggression as an act in which injury to another enables achievement of additional goals whereas the injury inflicted by reactive aggression serves to reduce aversive emotional states such as fear or anger. It is argued that the utility of this distinction is in the focus on aspects other than anger that contribute to aggression, moving away from viewing anger as the primary factor, as was traditionally the case (Blackburn, 1993). Others note that this distinction has enabled the development of key models such as the General Aggression Model to explain aggression by examining different pathways to aggression (Parrott & Giancola, 2007).

This distinction has, however, proven harder to distinguish in practice, with professionals struggling to differentiate between the two forms (Daffern, Howells & Ogloff, 2007). Indeed individuals often may have different motivations within one act of aggression. As a result there is now an acknowledgement of the mixed-motive aggressor (Anderson & Bushman, 2002). The concept of mixed motive refers to the fact that a single act of aggression can serve many different goals, some proactive and some reactive. Researchers have, nevertheless, questioned the validity of the proactive-reactive concept. Some have argued

that this distinction has no value given all aggression is enacted to achieve a goal and is therefore all instrumental in nature (Bandura, 1983). Bushman & Anderson (2001) also suggest that reactive aggression can contain some degree of planning and proactive aggression may contain some unscripted automatic behaviours. Thus this distinction is criticised for lacking specificity (Parrott & Giancola, 2007).

Anderson and Bushman (2002) further the debate by introducing the concepts of *proximate* and *ultimate* goals. They suggest that both proactive and reactive aggression have the proximate goal to harm but that ultimate goals may differ. To further the utility of the proactive-reactive distinction, DeWall and Anderson (2011) argue for aggression being characterised on four dimensions,

1) Degree of hostile or agitated affect present;
2) Automaticity;
3) Degree to which the primary (ultimate) goal is to harm the victim versus benefit the perpetrator;
4) Degree to which the consequences are considered.

The authors argue that this assists understanding of aggression better than a dichotomous category such as the proactive-reactive category (DeWall & Anderson, 2011). Others have reported empirical evidence supporting the distinction. Kockler et al (2006) for example, reported support for the two forms of aggression as distinct concepts, using a forensic psychiatric sample. They found evidence of 'impulsive' and 'premeditated' acts of aggression amongst a sample consisting of 73 men and 12 women. Kockler et al (2006) reported a positive correlation between the two forms of aggression and posited this may be due to criminal versatility given the forensic sample used. Nonetheless,

Kockler et al assert that, despite the inter correlations, the premeditated and impulsive dichotomy promises to be useful in the assessment and treatment of aggressive individuals. However this study is a small sample and it may be that other factors, such as active symptoms of mental illness, could have influenced the findings. Nevertheless it does suggest importance in considering motivation.

Felthous et al (2009) also found support for the distinction between proactive and reactive motivation. Their study contained aggressive acts from 97 male admissions from a maximum security hospital in America. Of the 97 admissions, 84 were deemed impulsive (reactive) and 13 premeditated (proactive). Felthous et al found those committing premeditated acts tended to present with a diagnosis of thought disorder, experiencing paranoid and suspicious thinking possibly influencing their choice to plan an act of aggression. Yet this study only examined one act of aggression and the correlations with diagnosis may therefore be artefacts of this study rather than generalizable findings. Examining one act of aggression cannot account for the usual pattern of behaviour which may have been characteristic for the individual. Indeed those identified as committing premeditated acts may actually have tended to act impulsively and thus it may be impulsive aggression which relates to thought disorder. The authors also noted difficulties examining many other acts of violence due to insufficient detail which may have led to inaccurate results.

Cima, Raine, Meesters and Popma (2013) further examined the dichotomy with a mixed sample. The sample consisted of 194 adult men prisoners, 99 mentally disordered adult men offenders, 39 non-offender juvenile men, 41 non-offender

adult men, 324 childhood male arrestees, 148 male juvenile offenders, 44 women childhood arrestees and 28 women juvenile offenders. They observed evidence of the distinction between proactive and reactive aggression, reporting proactive related to psychopathy and violent crimes whilst reactive negatively correlated with callousness.

They found reactive aggression to occur more frequently in both the offending and non-offending samples. The authors found proactive aggression to relate to violent crimes and suggested this may represent a more 'pathological' form of aggression. Whilst they reported meaningful differences between the two types of aggression, there remained an inter correlation between reactive and proactive aggression, as found in other studies. This suggests the two forms may not be as distinct as some would argue, certainly not within forensic populations.

Bushman and Anderson (2001) assert that focus on the reactive/proactive dichotomy may lead to inadequate attempts to control, modify and treat aggressive behaviour. They argue that aggression is much more complex than can be understood by the two separate constructs. Others argue that research does not support this claim as significant advances continue to be made examining this dichotomy (Ferguson & Dyck, 2012). For example, Meloy (2006) argues that research examining domestic violence, psychopathy and stalking behaviours has shown support for examining aggression in terms of reactive-proactive distinction, providing that they are considered dimensional rather than categorical.

Others suggest there is a compelling evidence of differences between reactive and proactive if they are examined based on *function* and not *form* (Polman et al, 2007). The term 'function' is in fact the true meaning of the reactive-proactive distinction; referring to the reason for the act, which can be *either* reactive or proactive in nature. The term 'form' on the other hand refers to the act itself (i.e., physical, verbal, indirect). Polman et al (2007) assert that the research findings reporting no observed distinction between the terms is due to researchers examining forms of aggression and labelling these as reactive or proactive without due attention to the *function* of the act; thus leading to inter correlations in the studies between reactive-proactive.

In fact, examining the concept as it was truly intended, in terms of function, has revealed key developmental differences in the origins and maintenance of reactive compared to proactive aggressors (Crick & Dodge, 1996). Observed differences include reactive aggressors experiencing higher rates of physical abuse, being more likely to engage in intimate partner violence, tending to attribute hostile intent to ambiguous actions and having low self perceived social competence. Proactive aggressors on the other hand are found to have greater overestimation of social competence, anticipate greater positive outcomes from aggressive acts and are more likely to go on to develop delinquent behaviour patterns (Bobadilla, Wampler & Taylor, 2012; Polman et al, 2007; Poulin & Boivin, 2000). Thus it seems the proactive-reactive distinction has much to offer in understanding the factors involved in the intent to aggress. It should be noted though that the majority of research examining aggression

motivation has been undertaken with children and adolescents and it will be important to determine if the findings can be generalised to adult samples.

Others in favour of the reactive-proactive distinction highlight significant differences in terms of emotional, cognitive and behavioural factors in the decision to aggress (Miller & Lynam, 2006). It is said that cognitive processes underpinning aggression differ in reactive compared to proactively aggressive children, with hostile attributions influencing reactive aggression and positive outcome expectancies leading to proactive aggression (Poulin & Boivin, 2000). The reported cognitive differences between reactive and proactive aggressors offer insights into understanding aggression and clear pathways in terms of intervention. The findings in terms of the cognitive differences between proactive and reactive aggression is therefore of great importance as this indicates a need to focus on different cognitive processes and indicates aggressors are not homogenous in nature.

Arguably the focus in the literature is on the emotional differences between proactive and reactive aggression; with the former representing an absence of emotion and the latter driven by an increase of negative emotion (Bushman & Huesmann, 2010). However, cognitions are vital to the motivation or intent to aggress, in addition to affect (Huesmann, 1998; Anderson & Bushman, 2002). Cognition or decision making guides behaviour and specific attention will be given to individual differences such as cognition in the form of attribution biases and expectancies in Chapter four. It is of note here, nevertheless, that there is more to aggression than the mere behavioural expression. Palmer and Begum

(2006) also draw attention to the fact that aggression comprises not only of behavioural expressions but also affective and cognitive components. Whilst, Parrott and Giancola (2007) urged caution in seeking to combine such elements in the study of aggression, the cognitive and affective elements implicated in the choice to aggress cannot be ignored.

Motivation to aggress: The implications for wider emotions

Regarding emotion, when examining the evidence for the relationship between affect and aggression, it could be argued that too much attention has been paid to anger as a sole motivating factor (Blackburn, 1993). The traditional view of an aggressor is that of an angry individual and research perhaps mistakenly over focuses on anger as the cause of aggression. It was widely assumed that under regulation of anger was a key factor in aggression. Daffern, Howells, Ogloff and Lee (2005) note that anger has been found to be a significant contributing factor in non-mentally disordered offenders and psychiatric samples.

Nevertheless, anger is not a necessary nor sufficient condition for aggression to occur. For example, proactive forms of aggression to meet a goal of attaining goods are unlikely to be driven by or even feature anger. Yet significant associations are routinely found between anger dysregulation and increased aggression (Chen, Coccaro & Jacobson, 2012; Davey, Day & Howells, 2005; Novaco, 2011).

It is now accepted, however, that other emotions in addition to anger are related to aggressive behaviour. For example, Dutton and Karakanta (2013) recently examined the evidence for a relationship between depression and aggression. They analysed published studies conducted with children and adults across general and clinical samples. The emerging evidence suggests where depression is present, and aggression was assessed, comorbid aggression was present. Dutton and Karakanta assert that the observed relationship may be due to the association between specific cognitions typical of low mood but also point towards neurological associations such as low serotonin and social isolation as key factors influencing the choice. However, this study only accessed published research that was not specifically designed to measure the association with depression and aggression. Thus these findings need to be tested specifically to determine the accuracy.

Conversely, in a study directly examining the association between emotion and aggression Chen et al (2012) claimed embarrassment/upset was *inversely* related to general and physical aggression, when hostile attributions and anger were controlled for. Their study employed a cohort of 7,282 twins from the general population in America. They claimed that sadness slowed cognitive processes and therefore enabled greater processing of the social cues and appropriate response selection. However, when examining relational aggression they found *positive* correlations between embarrassment/upset and aggression. They argued this was due to the heightened sensitivity to social bonds in sadness, with relational aggression used to secure social connections albeit in a maladaptive manner. Unfortunately the study employed self-report

measures and is reliant on participants having sufficient emotional awareness to assess their emotional responses to aggression. It may be that the inverse relationship between embarrassment and aggression was due to participants not recognising this emotion as relevant to physical aggression. Nonetheless this large scale study highlights the important motivational role of emotion.

Regarding the role of emotion as a motivating factor in prison based aggression, Ireland (2005b) argues that fear is a key variable in those who aggress in response to victimisation. Ireland advocates that fear underpins 'fight' and 'flight' tendencies but in the prison environment the latter option is diminished. So when faced with victimisation, and fear, individuals may choose aggression as an adaptive response. Thus when aggression is driven by fear it could be both reactive and proactive, in terms of a desire to reduce the fear but also to prevent their own future victimisation.

Robertson, Daffern and Bucks (2012) conducted a review into the wider relationship between emotional regulation and aggression. They highlight how a range of maladaptive emotional processes can result in aggressive behaviour. A relationship is observed between under *and* over regulation of difficult emotion and aggression. Robertson et al highlight the latter relationship is due to over regulation leading to depletion of cognitive and social resources necessary to prevent aggression. Davey, Day and Howells (2005) claim that inhibition of emotion such as anger (i.e., over regulation) is as influential as under controlled emotion. Inhibition of the experience or expression of emotion can lead to extreme displays of aggression when it is not possible to fully inhibit

the emotion. Therefore any model attempting to explain the choice to use aggressive behaviour needs to attend to the differing influence of affective and cognitive factors.

Summary

The literature has attempted to further the understanding of the intent to aggress by categorising aggressive acts in different ways. An influential distinction has been the examination of the nature of aggression, distinguishing between indirect and direct aggressive acts (Bjorkqvist, 2001). It is argued that the former are more commonplace in society and neglected by earlier research efforts which examined only overt forms of aggression (Bandura, 1978).

As we age and develop effective social skills we also learn more subtle ways of enacting aggression to meet our needs (Bjorkqvist et al, 1994). These more subtle acts are judged less costly to the aggressor and thus enacted when the costs of being detected are high (Bjorkqvist et al, 1994). These acts, though subtle, have the potential to cause harm to others and are classed aggressive. They must be included in any comprehensive examination of aggression. There is evidence of indirect acts being employed in forensic settings often more commonly than overt direct aggression (Ireland & Ireland, 2008).

Another useful distinction in the literature focuses on the motivation for the aggressive act. Using this approach, aggression can be classified as either reactive or proactive; being driven by aversive emotion or a purposeful goal

(Blackburn, 1993; Crick & Dodge, 1996). Individuals are said to be rarely purely reactive or proactive, leading to recognition of mixed-motive aggressors (Anderson & Bushman, 2002). This apparent overlap has led to criticism of the concept (Parrott & Giancola, 2007). However, the overlap may be due to methodological errors, with some studies surveying the *forms* of aggression rather than *functions* (Polman et al, 2007).

When the research has examined the function of the act significant differences are observed in terms of affective and cognitive factors leading to aggression (Bobadilla et al, 2012; Miller & Lynam, 2006; Poulin & Boivin, 2000). The aim of the current thesis is to understand the intent to aggress in forensic settings and therefore the function of aggression using the reactive-proactive distinction is of great importance. It will be important to determine whether this concept is as valuable to further understanding the factors leading to aggression in forensic settings. Theories and models taking these differences into account will be presented next.

2.4   Theories and models of general aggression

This section will introduce core theories and models of aggressive behaviour to underpin the analysis of the intent to aggress in forensic settings. It is not within the scope of the chapter to detail all theories in full; rather an outline of significant themes emerging from core theories and models of aggressive behaviour will be presented. Models to be presented begin with *Social Learning Theory* (SLT) perspective on aggression (Bandura, 1978), one of the first

models to outline the role of cognition and affect in aggression. The chapter will then examine the developments stemming from *Social Information Processing* models developed by Crick and Dodge (1994) and Huesmann (1998). These models expanded the work of SLT, operationalizing the cognitive and affective processes in the choice to aggress.

Whilst these models have offered much in the understanding of aggression they lack focus on biological and situational factors. The *General Aggression Model* (GAM; Anderson & Bushman, 2002) attempted to combine the contributions of social cognition models with wider theory and proposes the GAM as an integrative framework. Finally what each of these models neglects are the protective factors, i.e., the factors which lead to the choice not to aggress. The *I³ theory* (Slotter & Finkel, 2011) outlines factors which may inhibit aggression, the chapter will examine if this model can assist in understanding aggression in forensic settings.

Early theories argued aggression was instinctive or driven by frustration when goals were blocked (Berkowitz, 1969). These early approaches began to offer some understanding of why people acted in harmful ways but only partially explained *some* acts of aggression. Bandura (1978) stated a full theory of aggression must consider how aggression has developed, what triggers the behaviour and what sustains aggression (e.g., to encourage future aggression). Bandura criticised the over emphasis on instinct or frustration and noted that emotional arousal, whether positive or negative, could result in aggression. The choice to aggress, he claimed, depended upon how the source of the arousal

was interpreted. He believed that the principles of SLT could be applied to aggression; particularly in terms of the role of cognition in the acquisition, initiation and maintenance of behaviour.

SLT posits that humans observe significant others, make inferences based on the perceived outcomes of behaviour which may lead to the individual choosing to enact the same behaviour. The degree to which a person feels competent in enacting the behaviour is said to be a mediating factor (i.e., the degree of *self efficacy* present). This is in addition to whether the person believes the behaviour will have the desired outcome, referred to as *outcome expectancies*. Thus behaviour may be sustained if the individual believes they are competent to perform it and the consequences of doing so are to their advantage.

When applying SLT to aggression, Bandura highlighted how origins may include observation of family members, subculture and the media. He also drew attention to research findings reporting the extent of emotional desensitisation which occurs from repeated exposure to aggression, leading to increased aggressive behaviour (Bandura, 1978). The influence of subcultures and exposure to aggression is likely to be of importance to environments where aggression is more frequent, such as forensic settings. This will be returned to later.

Whilst SLT outlines key factors in the development, initiation and maintenance of aggression it perhaps places too much focus on cognition and neglects to explicitly outline the role of emotion. As already outlined, emotion plays a

significant role in aggressive behaviour (e.g., Chen et al, 2012) and any model seeking to explain the intent to aggress must attend to emotion as well as cognition. Subsequent models have attempted to address this (e.g., Social information processing models).

Social Information Processing models arose based on assumptions as to the role of cognition made by Bandura but also incorporating the interaction between affect, cognition and situational cues. There are two core models often referred to in the literature; *The Model of Social Information Processing Theory* (Dodge, 1986; Crick & Dodge, 1994) and the *Unified Social Information Processing Model*[1] (Huesmann, 1998). The former is said to focus primarily on the role of attribution and perception whilst the latter concentrates on scripts, beliefs and observational learning (Huesmann, 1998). Both models believe that individuals interpret and evaluate situational cues, search memory for ways to respond, evaluate and choose the 'best' response (influenced by normative beliefs, self-efficacy and outcome expectancies) and, finally, enact the response.

Both conceptualise the process of behaviour choice akin to a sequence adopted by a computer program. The core assumption of Crick and Dodge's model is that we engage in a series of procedural information processing steps in a given social situation and our behavioural choice is dependent on how we process the social cues. There are said to be six steps of information processing, as follows 1) Encoding of external and internal cues, 2) Interpretation of cues, 3) Selection

---

[1] The Unified Model is a revision of the Information Processing Model first outlined by Huesmann in 1988

of goals, 4) Response access, 5) Response decision and 6) Behavioural enactment. It is proposed that the steps may be influenced by prior experience; as such experience leads to formation of relatively stable cognitive schemas and scripts. These guide how inputs are processed and responses selected. Gilbert and Daffern (2010) note that there is a large body of research arising from this model, showing that aggressive behaviour in children and adolescents stems from biases and deficits in its various stages

The model has been criticised for appearing to imply that the steps operate in a linear manner when it is known that information processing is in fact parallel in nature. The authors do suggest there are a series of feedback loops throughout the sequence. The model has also been criticised for not articulating the specific role of emotion within the model (De Castro, 2004; Lemerise & Arsenio, 2000). However, Dodge & Rabiner (2004) refute this and refer to initial formulations of the model where they argue a role for emotion is clearly indicated. Nevertheless emotion has certainly not featured as a core component which is surprising given its noted relevance as indicated earlier.

Lemerise and Arsenio (2000) suggest emotional style, in addition to schemas and scripts, greatly affect how cues are encoded *and resultant decisions* produced. They contend that emotion should be added to Crick and Dodge's existing model. The *Integrated Model of Emotion Processing and Cognition in Social Information Processing* (Lemerise & Arsenio, 2000) built on this by incorporating emotion at each step of the existing model. This model is

presented in Figure 2.1. The black text represents the original model of Crick and Dodge, whilst the red text presents the additions by Lemerise and Arsenio.

As can be seen from Figure 2.1, substantial consideration is given in the integrated model as to *how* emotion can impact on each stage of information processing. Whilst this model is certainly an enhancement of the notions proposed in SLT in terms of active cognitions leading to the choice to aggress, it is lacking in its consideration of specific environmental conditions influencing the choice. This is of importance to the current thesis as aggression occurs much more frequently in secure settings and therefore the setting cannot be ignored. The model suggests that the response depends solely on the interpretation of the environmental cue, neglecting to suggest specific external cues which may raise the likelihood of an aggressive response.

Emotional prioritising somatic markers

4. Response access or construction

5. Response decision
Self-efficacy, outcome expectation, empathy responsiveness

Emotion Processes
Emotionality/temperament
Emotion regulation
Moods, background emotion

3. Clarification of goals
Arousal regulation, affective nature of relationship

Database
Memory
Acquired rules
Social schemas
Social knowledge
Affect-event links

6. Behaviour enactment
Emotion production

PEER EVALUATION AND RESPONSE

2. Interpretation of cues
Attributions of cause & intent, Interpretive processes
Affective nature of relationship

1. Encoding of cues
Internal and external
Affective cues from peer
Emotion recognition
Empathic responsiveness

Figure 2.1: An Integrated Model of Emotion Processing and Cognition in Social Information Processing (taken from Lemerise & Arsenio, 2000).

Furthermore both models were developed in order to examine the determinants of childhood aggression. Whilst it seems the principles are likely to remain across development, this has not been empirically tested and certainly not with populations known to have particularly challenging histories, namely adult forensic samples. Indeed, aspects felt pertinent to the school setting which may transfer to the prison setting include the importance of peer acceptance and

approval (Ireland, 2002). This will need to be examined in terms of normative beliefs in the forensic setting.

Huesmann's Unified Social Information Processing Model (1998) also clearly operationalizes the role of emotion. The unified model supports the assertions made by SLT and other information processing models, recognising the importance of observation of others in the development of aggression. Huesmann focuses on how observation leads to the development of *normative beliefs* and '*scripts*' to guide action. Scripts are mental representations of how to act in given situations whilst normative beliefs "*are cognitions about the appropriateness of a behaviour*" (Huesmann, 1998: p91). It is thought that the accessibility of scripts influences the choice to aggress, with frequently aggressive individuals possessing fewer non-aggressive alternative scripts than non-aggressive individuals.

Huesmann describes the model as identifying four processes where emotion, schemas and cues interact to lead to aggression. The first stage is the attention and interpretation of the cue. Second, scripts are retrieved from memory. Next the script is evaluated for appropriateness and selected if deemed useful. Finally, before enacting the script, the individual evaluates the potential response from others if they choose the script. Huesmann states that these processes become automatic.

Regarding the role for affect, the Unified Model suggests heightened emotion can limit our capacity to evaluate the choice of a script and can act as a 'primer'

for certain scripts (e.g., anger focusing attention on hostile cues, leading to the selection of an aggressive script). Huesmann's model has been directly applied to forensic practice, with the Unified Model used to understand aggression in prisons (Ireland & Murray, 2005) and as a framework to examine the choices to aggress with offenders within therapeutic interventions (Ireland, 2011a).

It is argued that the basis of the model, seeing aggression as a maladaptive choice, needs to be revised to further our understanding of aggression in forensic settings. Ireland and Murray (2005) note that aggression is in fact adaptive and normalised in forensic environments. They also consider that the learning of aggressive scripts is not restricted to childhood but occurs in adulthood and particularly during 'socialisation' to forensic settings.

The application of the Unified Model as a framework to examine the choice to aggress with prisoners permits analysis the factors involved in the decision to aggress, capturing significant cognitions and affect. Whilst the Unified model advances SLT it also does not specifically attend to the role of the environment, other than to view this as an input variable in the decision making process. This is particularly important in forensic settings where the restrictive environment may impede alternative non-aggressive scripts such as avoidance (Ireland & Murray, 2005). Nor does it truly consider the role of other stable individual factors such as personality traits. However, more recent approaches have attempted to do this.

The General Aggression Model (GAM; Anderson & Bushman, 2002; Anderson & Carnagey, 2004) is one of the most recent models of aggression which attempts to build on earlier models by also considering the role of stable trait factors such as personality. The GAM is described as integrating domain specific aggression theories to include situational, individual and biological variables (DeWall & Anderson, 2011). The GAM also considers the role of cognition and affect in the decision to aggress.

What it adds is consideration of the role of stable individual characteristics such as personality and biological factors. In terms of the latter, the GAM incorporates Bandura's (1978) view on repeated exposure to aggression leading to desensitisation (i.e., reduced physiological response when faced with aggression), leading to an increased use of aggression. It further details how repeated exposure to aggression leads to automatization of cognitive structures supportive of aggression. GAM refers to such stable structures as an 'aggressive personality'. The authors argue that such structures can shape the social environment and vice versa, resulting in the traits being either strengthened or supressed. Thus it begins to outline the influence of the social environment on the development and maintenance of aggression. Figure 2.2 presents the many factors incorporated into the GAM.
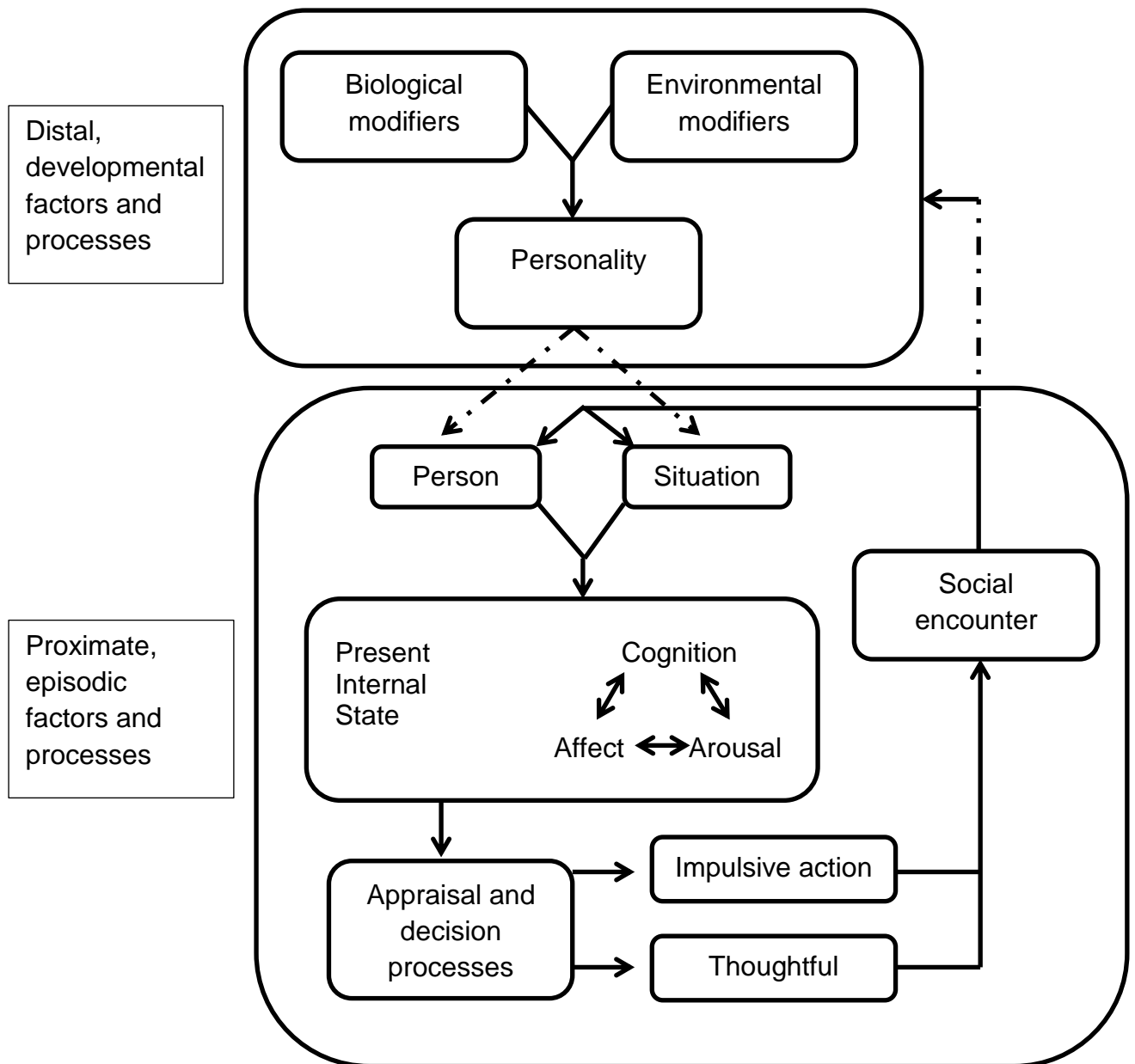
Figure 2.2: The General Aggression Model (Taken from Anderson & Carnagey, 2004).

Essentially the GAM considers three core aspects; *inputs*, *routes* and *outcomes*. 'Inputs' are the person and situation factors which make aggression more likely to occur at a given time, the former may be long standing factors such as personality and beliefs whilst the latter refer to the more immediate cues present. These inputs then influence the internal state via different 'routes';

be this cognitive, affective or physiological. Each of the routes influence each another and create an internal state which may lead to an aggressive outcome. The third aspect, 'outcomes', capture the decision processes and appraisals shaped by the inputs and routes which determine the behavioural choice (i.e., aggression). Immediate appraisals are said to lead to impulsive action. Nevertheless, a reappraisal may occur if the initial appraisal outcome is unsatisfactory, leading to thoughtful action. The outcome can then further influence the person and situational factors. This model therefore encapsulates the individual elements and the environmental cues leading to a decision to aggress. In terms of individual factors it considers the long standing personality traits and the immediate cognitive, affective and physiological variables.

The GAM is not without criticism. Ferguson and Dyck (2012) claim that despite the GAM being described as an integrated framework it is in essence a social cognitive model. One example highlighted by Ferguson and Dyck is that GAM considers personality purely as a collection of learned scripts rather than a true personality approach. The GAM's view on personality does not truly represent biologically based personality traits in line with traditional personality theory and therefore does not extend existing social cognitive models. If the theory was truly an integrative theory it would perhaps incorporate true personality theory such as the Five Factor Model approach of Costa and McCrae (1992). Incorporating these ideas would extend existing social cognitive approaches by considering how such stable factors may influence the development, initiation and maintenance of social cognitive structures.

Furthermore, what is perhaps less clear in the GAM, and other models, is the decision *not* to aggress. The GAM makes reference to how processes such as self-regulation and inhibitory factors may be overridden by moral justification and dehumanisation; factors outlined by Bandura in SLT (1978). It may be assumed, based on the GAM, that the decision *not* to use aggression may relate to an absence of factors supporting the use of aggressive behaviour. That is, affect may be low or accessible scripts for the situation may be non-aggressive.

However, research into protective factors, e.g., factors preventing aggressive acts, suggests these are more than a simple absence of risk factors, e.g., those factors which facilitate aggression (De Vogel, De Ruiter, Bouman, & De Vries Robbe, 2009). True protective factors are those conditions which when they are *present* lead to an inhibition aggression. Examples include effective coping skills, positive attitudes towards authority and self-control.

A theory which does consider the role of self-control, and therefore addresses the lack of consideration of protective factors, is the I³ theory (Slotter & Finkel, 2011). This theory was originally developed to further the understanding of intimate partner violence comprising three core elements; 'inhibiting', 'instigating' and 'impelling' forces. The latter two factors focus on situational and individual factors leading to aggression and are consistent with existing models. Where this theory differs and advances the literature already outlined in this chapter is the explicit focus on *inhibiting forces*, which are said to be those aspects which override an urge to act aggressively.

The inhibitory factors are said to involve various elements of self-control e.g., trait self-control and cognitive processes undermining the use of aggression (Denson, DeWall & Finkel, 2012). If these factors are weak, then the instigating or impelling factors "*need not be especially strong to result in aggressive behaviour*" (Slotter & Finkel, 2011: p40).

I³ theory further defines inhibiting factors into four types; evolutionary and cultural, personal, dyadic and situational. Each of these elements includes cognitive processes which may operate to facilitate a non-aggressive response. For example, evolutionary factors include social norms decreasing the likelihood of aggression; personal inhibitors include outcome expectancy beliefs that aggression will not lead to favourable consequences; dyadic factors include perspective taking; and situational factors takes account of cognitive processing time.

Such cognitions are certainly not new. Social Learning Theory first presented the role of outcome expectancies and Social Information Processing theories capture the role of social norms, referred to as normative beliefs. Conversely, I³ theory explicitly considers the strength of inhibitory factors *versus* the impelling and instigating factors in the decision to aggress.

The authors claim that dispositional self control factors raise the inhibition threshold and reduce the strength of impelling factors (Slotter & Finkel, 2011). Such focus on specific elements leading to a choice *not* to aggress is absent from existing models and needs to be considered in applying models to the

forensic setting as not all present in the environment will act aggressively. This can offer understanding of how to *reduce* aggression, by enhancing the factors influencing the decision *not* to aggress.

Summary

The core theories of general aggression presented here each argue that the observation of others is a core factor in the development of aggression, if the perceived consequences are of value to the individual (Bandura, 1978). This can then lead to the development of stable cognitions supportive of aggression and reduced physiological arousal, influencing future choices to aggress (Anderson & Bushman, 2002). Affect is judged to be a significant mediating factor by the latter models; priming for selection of scripts and inhibiting effective processing of the environmental cues (Huesmann, 1998). The I³ theory (Slotter & Finkel, 2011) furthers the existing models by explicitly considering the presence of factors which may override trigger factors and lead to a decision not to aggress.

Each theory points to situational factors being significant in the choice to aggress in terms of the interpretation of situational cues by the individual. None of the general aggression models outline specific situational variables leading to the decision to aggress. It seems therefore that the environment needs to be attended to in greater detail. Models of aggression developed specifically for forensic settings but informed by a range of earlier models have attempted to bridge this gap in the literature. The following chapter will examine such models.

2.5   Concluding comments

As this chapter has illustrated there is no consensus as to a clear definition of aggression. Nonetheless scholars and practitioners agree on core themes as follows: Aggression consists of a clear *intent* to harm, despite whether the harm occurs (Krahe, 2013). The recipient of the harm must be unwilling (Baron & Richardson, 1994). The harm may be directly observable or could be psychological in nature and as such the threat of harm is considered an act of aggression (Krug et al, 2002). Finally the aggressor must be acting purposively to inflict harm, not accidentally (Douglas et al, 2013).

When specific forms of aggression are examined it is clear that focusing on direct and observable forms of physical aggression neglects the extent of aggression that occurs in society (Bandura, 1978). Research shows that indirect aggression is more commonplace than direct physical acts. Thus a definition of aggression must consider the way in which the harm is conducted. However, there may be a number of goals in addition to the intent to harm and aggressive behaviour has been reviewed in terms of the motivation for the act. Using this approach, aggression can be described as either proactive or reactive (Crick & Dodge, 1996). There is disagreement within the literature as to whether these distinctions are valid (DeWall & Anderson, 2011). Yet this particular distinction has allowed researchers to identify discrete cognitive, emotional and behavioural differences which shed light on an aggressors intent to harm (Miller & Lynam, 2006).

A number of models have been developed to explain the development, initiation and maintenance of aggressive behaviour. The review here focused on the contributions of Social Learning Theory (SLT; Bandura, 1978), the Unified Social Information Processing Model (Huesmann, 1998), and the General Aggression Model (GAM; Anderson & Bushman, 2002; Anderson & Carnagey, 2004). Each of these approaches agree on the powerful impact of observing aggression. It is proposed that this can lead to not only the development of cognitions in favour of aggression but can lead to desensitisation and biological changes facilitating future aggressive behaviour (Anderson & Bushman, 2002).

They also agree on the role of cognition in the initiation and maintenance of aggression. The GAM builds on the influence of beliefs and scripts by adding the interaction with stable individual traits such as personality. A more recent model, I³ theory (Slotter & Finklel, 2011), extends the previously mentioned theories by explicitly considering inhibiting factors (e.g., the individual and environmental characteristics which lead to a decision *not* to aggress). Each theory notes the importance of the environment as an 'input' variable, but none explicitly review the role of specific environmental factors. This is paramount in settings where aggression occurs significantly more frequently than in the general population, namely within forensic settings.

Chapter 3

UNDERSTANDING AGGRESSION IN FORENSIC SETTINGS

3.1   Structure of the chapter

This chapter will outline what is known about aggression in forensic populations, examining specific models which have attempted to explain aggression in forensic settings.

3.2   Occurrence of aggression in forensic settings

Aggression is a significant concern in forensic settings (Daffern & Howells, 2002; Dickens, Picchioni, & Long, 2013; Fluttert et al, 2011; Pulsford et al, 2013; Vaaler et al, 2011). The term 'forensic settings' is used to encompass secure settings such as prisons and secure psychiatric services, since research highlights significant rates of aggression in such settings.

Regarding the prevalence of aggression, a recent report commissioned by the World Health Organisation stated 20 percent of prisoners were victims of aggression in a six month period whilst 25 percent of staff were physically aggressed against during their careers (Enggist, Møller, Galea & Udesen, 2014). Research conducted with adult and juvenile prison samples consistently reports estimates of around 80 per cent of those sampled have been subject to direct and/or indirect aggression in the previous month (e.g.,, Ireland & Ireland,

2008; Chan & Ireland, 2009). Research conducted examining the incidence of violence within psychiatric settings reports a third of patients experiencing first episode psychosis exhibited some form of violent behaviour within the setting, with 1 in 6 committing a *serious* act of violence (Large & Nielssen, 2011).

International research has recently examined rates of aggression in forensic psychiatric settings and continues to report a high incidence of aggression. For example, Nicholls et al (2009) examined the incidence of aggression amongst Canadian forensic psychiatric inpatients. No sex differences were reported across nature or severity. Sixty per cent of patients acted aggressively in a 12 month period; one fifth perpetrated at least one act of physical aggression against another person in the same period. The study utilised recorded file information which would have been subject to possible biases in how aggression was recorded. For example, it may be that some acts of physical aggression were not recorded if present during an episode of mental illness and therefore the figures may be an underestimation. However, a study conducted in Finland reported rates consistent with Nicholls et al; Kuivalainen et al (2014) reported one fifth of their sample acted aggressively in a two year period.

Other research addresses the impact of such high rates of aggression. Dickens, Piccirillo and Alderman (2013) refer to 57,830 physical assaults recorded against healthcare workers in England in 2010-11 perpetrated by service users. Again this study was reliant on the information available within hospital records and may be subject to biases in how the aggression was described by staff. For example, aggression perceived as deliberate and purposeful may be recorded

more readily than reactive forms of aggression. Nonetheless, these studies show aggression represents a significant challenge in forensic settings and has the potential to significantly harm those seeking to support individuals in these settings. As such there is a real need to better understand the factors which lead to the choice to aggress to assist in management and reduction of aggression.

To examine aggression in prison settings, research has focused on bullying in recent years (e.g., Chan & Ireland, 2009; Ireland, 2002; Ireland, 2005a; Ireland, 2011b; Ireland & Ireland, 2008; Nagi, Browne, & Blake, 2006; Nurse, Woodcock, & Ormsby, 2003; Palmer & Begum, 2006). Definitions of bullying examining aggression in forensic settings do capture themes such as whether the act is direct or indirect, whether the victim fears reoccurrence and, imbalances of power (e.g., Ireland, 2002).

Such definitions encompass the factors judged to be important from the general aggression literature in terms of the inclusion of indirect acts, the role of fear and imbalance of power. Rates of aggression found in prison research only tend to vary if the measurement used contains the term 'bullying'. There has been a recent preference to describe 'bullying' less by using an emotive label and more by what it represents, namely 'intra-group aggression' (Ireland & Ireland, 2008; Ireland, 2012). However it may equally be referred to as 'inter-group aggression' dependent upon the perception of the aggressor, as it may be that the aggressor is choosing victims from the 'out' group within the institution.

Nonetheless, higher incidences are found when the term bullying is not used and behaviours are simply rated according to experience of or engagement in using behavioural checklists as individuals in secure settings are more willing to acknowledge engagement in discrete behaviours when they are not referred to as 'bullying'. One such checklist to use this approach is the Direct and Indirect Prisoner Behaviour Checklist (DIPC; see Ireland, 1999; Ireland, 2011b). This checklist was designed to capture the full range of direct and indirect aggressive acts known to occur in forensic settings. Furthermore it allows for estimations of both perpetration of aggression and victimisation.

Rates of victimisation tend to be higher when using the DIPC than for perpetration (e.g., 'I have hit another prisoner'). Regardless of whether the rates of perpetration or victimisation are examined, research with adult forensic settings consistently finds indirect aggression to be reported more frequently than direct aggression (Ireland & Ireland, 2008; Ireland, 2012). This is in line with general aggression research (Bandura, 1978; Krahe, 2013).

Also consistent with the general aggression literature is the finding that juvenile offenders report *less* engagement with indirect aggression than adults. Specifically this supports assertions that social skills develop as we age, leading to greater use of indirect aggression (e.g., Bjorkqvist, Osterman and Lagerspetz, 1994). When checklists are used estimates of perpetration of aggression are around 60 per cent of those sampled and victimisation as high as 80 per cent (Ireland, 2011b). Estimates tend to be higher when individuals are asked to offer their *perceptions* of aggression in the institution rather than

personal experience of (Ireland, 2012). This possible overestimation may be due to a fear of aggression. This may also be due to the inmate culture normalising and rewarding the use of aggression and therefore individuals perceive aggression occurring much more frequently than in reality. Inmate culture will be reviewed in Chapter five.

Irrespective of the rates of aggression observed, research has identified a range of categories involved in aggression. Examination of those involved in aggression typically results in four categories, these are, 'perpetrators', 'victims', 'perpetrator/victims', and 'low frequency-causal involvement', with this latter group comprised of those reporting either no perpetration or victimization (Ireland & Ireland, 2008; Ireland, 2011b). This latter group is an important group to consider as this sample offers the opportunity to consider individual differences in those who more frequently choose *not* to aggress in the forensic setting.

Regardless of the specific method used to classify prisoners into groups, perpetrators are typically the smallest category, with perpetrator-victims tending to be the most common and representative of the mutual perpetrator-victimized category (Ireland, 2002; Ireland & Ireland, 2008; Ireland & Monaghan, 2006; South & Wood, 2006; Palmer & Begum, 2006). Researchers suggest that prisoners belonging to this category often aggress in order to prevent the further victimization of themselves (Ireland, 2002). They are therefore considered to represent reactive aggressors (Ireland, 2002) whilst perpetrators are deemed proactive aggressors (Ireland, 2005b).

There is support for this motivation differing but in alternative ways. Palmer and Thakordas (2005) used a sample of 70 male offenders and observed perpetrator-victims tended to report using instrumental/proactive aggression, whereas perpetrator reported using expressive/reactive aggression. Recent research has questioned this, finding pure perpetrators and mutual perpetrator-victims to be mixed motive in their aggression (Holland, Ireland & Muncer, 2009). Nevertheless, research appears to support the assertions made in the general aggression literature as to the importance of looking at aggression in terms of its *motivation* and in the merits of utilizing the proactive-reactive distinction to do so (Meloy, 2006).

An aspect absent from general aggression literature and models is closer examination of the role of specific environmental factors in the choice to aggress. Indeed environmental factors may play a lesser role in non-forensic aggression. However, given the higher rates of aggression observed in forensic settings the aspects of the environment cannot be ignored. In fact, research examining aggression between those housed in forensic settings has focused on aspects of the environment contributing to aggressive behaviour as much as individual characteristics (Cornaggia et al, 2011; Daffern, Mayer & Martin, 2004; Papadopoulos et al, 2012; Vaaler et al, 2011).

Findings indicate the significant role of unit regimes (e.g., relational security) and structural aspects (e.g., physical security) of forensic environments in addition to the interactions between those living and working in such settings. Specific findings relating to environmental characteristics influencing aggression

is the focus of Chapter five. Focus will now be upon the models which have been developed to explain the use of aggression in forensic settings.

3.3   Models of aggression in forensic settings

The general aggression models already presented are thought to provide a good foundation from which to explore aggression occurring in forensic settings as they identify important individual characteristics known to contribute to the intent to aggress. Efforts have been made to develop existing models to account for additional factors specific to forensic settings. Ireland (2012) reviewed the application of core aggression theory and posited that the interaction between the environment and individual factors is a key component for consideration.

This assertion has a basis in earlier work which attempted to explain the occurrence of violence in forensic settings using models such as the *Importation Model* (Thomas, 1970). The model argued that individuals entered the environment with pre-prison cognitions supportive of violence, which were merely readily accessed in the hostile environment of the institution. However, the Importation Model fails to explain individuals who act aggressively in prison but have no previous history of aggression. In fact, the Importation Model arose to extend the scope of existing models such as the *Deprivation Model* (e.g., Goffman, 1961) which can explain those who become aggressive in the secure setting. The Deprivation model, sometimes also referred to as the 'Indigenous Origins' model, asserted that individuals adapted values in response to the

'pains of imprisonment'. For example, in the Deprivation Model approach aspects such as the security level of the prison, crowding and management style were posited to explain prisoner misconduct (Hochstetler & DeLisi, 2005).

Thomas and Foster (1973) argued that the common problems faced by imprisonment were insufficient to explain the development of the normative belief system observed in prisoners. Rather they proposed that individual characteristics and prior experiences determined the extent to which a person adopted either a prosocial or antisocial approach to prison life. Yet it seems that neither the importation or deprivation model alone can account for the intent to aggress in forensic settings; since each model places sole emphasis on either individual or environmental contributors to aggression. It is accepted that *both* individual *and* environmental factors play a role in the intent to aggress in forensic settings. Indeed the most commonly cited predictors of institutional violence and other misconduct in prison were institutional factors *and* antisocial attitudes or behaviour (Hochstetler & DeLisi, 2005).

Recent research has found support for integrating these approaches by incorporating individual characteristics present before prison life *and* aspects of the forensic setting to increase the chance of an aggressive response (DeLisi, Berg & Hochstetler, 2004). Lahm (2008) argued that a blended approach of the importation and deprivation models was necessary to account for the individual factors and environmental triggers to prisoner on prisoner assaults. This study of 1,054 adult men from thirty American prisons found that younger individuals with prior aggressive tendencies were more likely to be affected by crowding

and react aggressively. Age (younger than 25) was a significant individual difference reported in this study.

Lahm's (2008) large scale study showed that context was significant in the choice to aggress; with aggressive individuals reacting aggressively to deprivation. The study did not find evidence that beliefs before prison contributed to aggression in prison. However, beliefs were measured retrospectively, asking prisoners to rate their beliefs before entering prison and therefore subject to bias and insight into beliefs. The lack of significance of this individual factor may in fact be due to methodological limitations rather than represent a true finding. Nonetheless beliefs alone would be unlikely to explain the intent to aggress. Indeed Lahm concluded that "*certain contextual prison conditions exacerbate individual violent behaviour*" (p.133), thus arguing for combining the deprivation and importation models.

Jiang and Fisher-Giorlando (2002) also advocated the use of an integrated model to best account for aggression in forensic settings. They examined the application of the previous two models and the situational approach (i.e., focusing on the *interaction* between the individual and the immediate environment). They found each of the three models assisted in explaining prisoner violence, with the deprivation model being the most powerful of the three in explaining violence towards prisoners and officers.

Dhami, Ayton and Lowenstein (2007) examined elements of both the importation and deprivation models in their study of 712 adult men from three

prisons in America and observed support for both models. Participants completed a self-report survey consisting of five categories (regime, contact, thoughts, emotions, misconduct). Analysis revealed direct effects of time in prison on participation in the regime, their thoughts on control over their lives, reported hopelessness and misconduct.

Thus again this shows that in order to account for aggression in secure settings we must consider both individual factors and environmental characteristics. Unfortunately this study analysed all forms of misconduct and so it is unclear the extent to which these factors are specific to aggressive behaviour. Nevertheless, this does lend weight to the need to examine the elements of the importation and deprivation models in detail.

It seems that, whilst an integration of these early models can assist in identifying various factors associated with intent to aggress in the forensic settings, research suggests the models are insufficient alone to account for the choice to aggress. However, other forensic models exist which do integrate both individual characteristics of the importation model and environmental factors of the deprivation model.

The Interactional Model of Prison Bullying (IMP) was first proposed by Ireland (2002) to describe the key interaction between the environment and individual characteristics. As noted earlier, bullying behaviours comprise of commonly enacted forms of aggression in the secure setting. The two main components of the IMP are further divided. The environment is viewed in terms of both the

physical and the social environment. This model argues that elements of the physical environment thought to promote aggression include limits placed on material goods, lack of stimulation and social density. Important aspects of the social environment thought to promote legitimate authoritarian hierarchical structure, reliance upon rules and an importance placed upon dominance and status. Aspects such as inmate subculture are also important influences within this model.

Individual characteristics are viewed in terms of descriptive characteristics (e.g., time spent within secure conditions), skill level (e.g., ability to use aggression to meet needs) and intrinsic characteristics (e.g., attitudes towards aggression, tendency to use aggression). Whilst the IMP model facilitated much research examining environmental factors and individual differences influencing engagement in aggression (e.g., Chan & Ireland, 2009; Ireland, 2002; Ireland, 2005a; Ireland, 2011b; Ireland & Ireland, 2008) it did not explicitly outline the role of specific cognitions or affective factors judged significant in the general aggression literature.

The IMP failed to explicitly outline elements such as beliefs, attitudes, attributions or fear in detail. The inclusion of cognitive appraisals is consistent with existing frameworks such as GAM and Social Information Processing Models and thus the importance of including cognition and also emotion (i.e., see Chapter 2) become important elements to consider in any understanding of the decision to aggress. In order to address these limitations Ireland (2012)

developed a subsequent model to replace the IMP, The Multi Factor Model of Bullying in Secure Settings (MMBSS).

What the MMBSS adds is attention to fear as a mediating factor in the choice to aggress in prison. Ireland (2005b) argues that fear plays a central role in aggression in forensic settings. It has already been noted that some individuals act aggressively in these settings to prevent their own victimisation (e.g., Palmer & Thakadoras, 2005) and it may be that fear motivates this choice to aggress.

In fact, research has found that fear in a forensic setting arises from appraisal of level of threat and coping ability, independent of experience of victimisation (Ireland, 2011b). This particular finding again highlights the influence of specific environmental factors; as it seems the *appraisal of the threat* of aggression would be raised in secure settings.

Figure 3.1 presents the MMBSS. The MMBSS proposes two core pathways to aggression; the 'desensitisation pathway' and the 'environment and prior characteristic' pathway. The latter route is proposed for those individuals in the 'pure perpetration' category only where the role of stable dynamic factors are more influential (e.g., normative beliefs, personality traits), and therefore consistent with the Importation Model ideas. However, Ireland does also acknowledge aspects of the physical and social environment which support these pre-existing individual factors. Thus the pathway perhaps represents a blending of the deprivation and importation models.

CONTEXT **STABLE DYNAMIC INDIVIDUAL** **ACUTE DYNAMIC INDIVIDUAL**

Aggression frequent and normalised

Perceived threat of aggression is high

Options for management of bullying are limited

Desensitisation to observing and using aggression

Increased normative beliefs supporting aggression
Attitudes supporting aggression
Decreased perception of injury severity
Decreased attention to acts of bullying
Decreased empathy for victims

RAISED POTENTIAL AS PERPETRATOR OR MUTUAL PERPETRAOR/VICTIM

Fear
Anger
Hostility
Stress

RAISED POTENTIAL FOR PERPETRATION

REINFORCEMENT FOR PERPETRATION

Promoting features of physical environment e.g., *restriction on material goods, high social density and low spatial density; supervision predictable and staff: resident ratio low; Lack of supervision.*

Promoting features of social environment e.g., *authoritarian/hierarchical structure based on dominance; reliance on rules; resident subculture; importance of status; low genetic & attachment relationships.*

A wish to comply with social norms
Increased experience of secur care
Promoting factors, *e.g., personality, impulsivity, positive evaluation of aggression*

RAISED POTENTIAL AS PURE PERPETRATOR

Continues to support desensitisation

Figure 3.1: Multifactor Model of Bullying in Secure Settings (MMBSS; Taken from Ireland, 2012)

The desensitisation pathway is underpinned by aggression being viewed as frequent in the environment, being normalised by the social group, in addition to a perception of threat of aggression being high. Ireland claims these factors lead to desensitisation to aggression. These factors then facilitate existing stable characteristics supportive of aggression (e.g., beliefs), particularly in the presence of 'acute dynamic factors' (e.g., heightened negative emotions). This pathway is therefore consistent with the situational approach, recognising the interaction between specific environmental factors and pre-prison experiences and characteristics. The desensitisation pathway is said to explain the 'perpetrator-victim' group, who are said to aggress in prison to prevent their own victimisation rather than solely due to pre-existing habitual aggression.

Personality traits are considered in the MMBSS, although a critique of the model is its lack of specification regarding personality traits which may increase the likelihood of an aggressive response in forensic settings. Furthermore, personality traits are also only suggested to relate to the 'pure perpetrator' and not the mutual perpetrator victim individuals. It may be that personality is an important individual factor in all those who aggress. Certainly the GAM (Anderson & Bushman, 2002) considers personality to be influential in the choice to aggress but this has not featured heavily in the MMBSS. Indeed it may be that certain personality traits are also influential inhibiting factors. These issues will be captured in the ensuing chapter.

To date the aspects of the MMBSS model which best predict the intent to aggress have not been tested. In addition this model has been developed to attend to the *choice* to bully others in secure settings and therefore attends to some behaviours in addition to aggression such as theft and drug related acts. As such this model may not truly explain aggression in secure settings. Furthermore, the MMBSS does not present the pathways for the pure victim group or those not involved. Arguably to fully consider the factors involved in the decision to aggress, identification of the factors impeding this decision is as important.

A recently developed forensic model which has attempted to incorporate inhibiting factors is the '*Bio-Psycho-Social Model of Violence*' (Steinert & Whittington, 2013). This model is explicitly designed to capture factors specific to mental illness, which, to date, is absent from the literature. The model is divided into two parts; predisposing aspects of the individual and the situational aspects in which the aggression occurs.

Steinert and Whittington captured three core aspects of individual characteristics shown to relate to violence in the literature, namely, biological, neurocognitive/psychological and social factors. Arguably, elements of the neurocognitive/psychological (impulsivity, attitudes, antisocial traits, early experiences) and biological (brain structures, age) domains are consistent with general aggression models such as GAM (Anderson & Bushman, 2002) and social cognitive approaches (Crick & Dodge, 1994; Huesmann, 1998;

Lemerise & Arsenio, 2000). Existing forensic models such as the MMBSS also capture the majority of the neurocognitive/psychological factors.

The model also considers social factors found to relate to development of violent behaviour, not only in mentally disordered offenders, particularly the experience of victimisation (see Dutton, 1999). These factors are attended to within MMBSS also and it seems that these factors are particularly relevant to prisoners. The authors of the Bio-Psycho-Social Model recognise, though, that individual characteristics alone cannot account for violence occurring in forensic settings and part II of the Bio-Psycho-Social Model outlines specific situational factors leading to aggression.

The core 'situation' and 'facilitating factors' components are consistent with general aggression and forensic models, considering aspects such as outcome expectancies, availability of weapons and peer support. The authors include immediate individual factors here, such as cognitive and affective processes, with specific attention to how mental illness and substance abuse can impair these processes. What is additional here is the inclusion of *inhibiting factors*. The authors extend existing understanding by outlining cognitive, affective and biological factors which may serve to undermine an aggressive intent. Inhibiting factors include morality, de-escalation, empathy, fear of punishment and alternatives to aggression. It is this aspect which is the key strength of this model.

This model is yet to be applied. It is also lacking in terms of consideration of physical environmental factors found to play a role in the increased aggression in mentally disordered offenders (Gadon, Johnstone & Cooke, 2006). In addition the authors note that the model is designed to account for reactive aggression and has limited power to explain proactively motivated acts. It does, however, feature aspects absent from the MMBSS such as inhibiting factors. It may be that the MMBSS can be strengthened by attending to these elements. Furthermore, blending the MMBSS and Bio-psycho-social Model could potentially capture all the factors thought to promote violence in forensic settings.

Summary

Aggression in forensic settings is clearly a concern. Research examining aggression has identified subgroups of individuals involved; perpetrators, perpetrator-victims, victims, low frequency/casual involvement and not involved. The pure perpetrator is judged to be someone who enters prison with pre-existing violent tendencies, whilst the mutual perpetrator-victim group appear to aggress in the context to prevent their own victimisation. It would seem that this group also possess existing beliefs supportive of aggression prior to entering prison. These subgroups can be understood by the Importation Model (Thomas, 1970), an early criminological model which proposed prisoner behaviour is determined by their pre-prison experiences and beliefs. However, recent research has shown this model cannot account for violence. Neither can its predecessor, the deprivation model, which placed the emphasis solely on the prison environment. Forensic models of

aggression have to account equally for aspects of the individual and the environment

One such model is the MMBSS (Ireland, 2012). This identifies two pathways to explain intent to aggress. It captures significant aspects of the physical and social environment whilst also attending to stable and dynamic individual characteristics. This model is lacking in its consideration of inhibiting factors. Despite aggression being common in forensic settings, no individual is aggressive continually. Thus, in order to understand intent to aggress, the factors inhibiting aggression are as important. A recent model, The Bio-Psycho-Social Model of Violence in Mental Illness (Steinert & Whittington, 2013), attempts to bridge this gap by specifying inhibiting factors. Yet this model does not account for any aspects of the physical or social secure environment. Thus it seems important to determine which aspects of these models are most influential in the decision to aggress. Arguably an amalgamation of the MMBSS and the Bio-Psycho-Social Model of Violence could capture all the factors leading to the choice to aggress in forensic settings.

3.4   Concluding comments

General aggression models are unable to fully account for aggression in secure settings as they do not attend to the environmental characteristics thought to facilitate aggression. Research has shown that attention needs to be given equally to individual and environmental factors and specific models

have been developed to account for both elements (Ireland, 2002; Ireland, 2012; Steinert & Whittington, 2013).

The Multifactor Model of Bullying in Secure Settings (MMBSS; Ireland, 2012) was developed to explain the interaction between the environment and individual characteristics. The MMBSS builds on the general aggression literature, with the addition of a direct focus on the aspects of the social and physical environment which facilitate aggression in forensic settings. The MMBSS builds on earlier models by explicitly considering the role of specific cognitions and affect. Arguably however this model is lacking in its identification of those not involved in aggression (i.e., those choosing *not* to aggress) and does not specify a role for personality sufficiently enough.

In order to gain a complete understanding of aggression in the forensic setting we must also understand those factors leading to the decision not to aggress. The MMBSS has not yet been tested so it is not known which aspects of the model are most useful to understand the intent to aggress. The aim of the thesis is to examine elements of existing models such as the MMBSS which are most predictive of aggression in the secure setting, whilst also seeking to identify those characteristics leading to the decision *not* to aggress and therefore also building on models such as Bio-Psycho-Social model (Steinert & Whittington, 2013) and I^3 theory (Slotter & Finkel, 2011).

Chapter 4

INDIVIDUAL DIFFERENCES IN AGGRESSION

4.1   Structure of the chapter

This chapter will present an overview of individual differences in those who choose to use aggression; it will examine the evidence related to the individual differences proposed to play a significant role in the theoretical models outlined in chapter two and three. This will include detailed examination of cognition, affect and personality differences in aggressors. First, the chapter will examine the findings on the role of cognition in the intent to aggress.

4.2   Cognition

The models of aggression outlined in chapter two note the significant role of cognition in choice to aggress. The language used to describe the different components of social cognition is varied, with reference to attitudes (Polaschek, Collie & Walkey, 2004), beliefs, schemas (Bushman & Huesmann, 2010) and attributions (Crick & Dodge, 1996). Each will be defined here before examining the research findings as to the influence of each in the intent to aggress.

An attitude is defined as an *evaluation* of an object, informed by cognitive, affective and behavioural information (Maio & Haddock, 2010). The literature on criminality and antisocial behaviour consistently highlights strong links with attitudes and behaviour (Andrews & Bonta, 2010; McGuire, 2000). Whilst these studies on antisocial behaviour do include attention to violence and aggression, they also include a multitude of other acts distinct from aggression. Thus research needs to separate the behaviours incorporated under this heading.

Research specifically focused on aggressive behaviour indicates an association with attitudes and aggression (e.g., Wiklund, Ruchkin, Koposov & Klinteberg, 2014). Research into attitudes though is not extensive, particularly with forensic samples (Polaschek, Collie & Walkey, 2004). In fact a recent review of the literature claimed that only five published studies explored the role of cognition in violent behaviour (Bowes & McMurran, 2013).

Attitudes are only one component of social cognition referred to in the literature. Beliefs are also said to be important in the choice to aggress. Beliefs differs to attitudes in that a belief is described as *associations* made between an object and various characteristics, qualities and attributes (Ajzen & Fishbein, 1980). The use of the term 'object' in the social cognition literature refers to anything one can form an attitude toward, such as a person, ones self, groups, issues in society and entities such as cars or houses (Maio & Haddock, 2010). It is argued that an attitude stems

automatically from beliefs, particularly from salient or readily accessible beliefs, since the attributes assigned tend to be either positive or negative in nature (Ajzen & Fishbein, 1980; Ajzen, 2005). Research has found associations between beliefs and aggression.

The definition of beliefs overlaps with another concept in the social cognition literature, namely schema. A schema is described as a "*mental framework*" for understanding the social world and those in it (Baron & Byrne, 2000). Huesmann (1998) refers to schemas as units of knowledge stored in memory. These units are said to represent substantial amounts of information about a concept, its parts and relationship to other concepts. Within the literature the terms, belief and schema, appear to be describing the same construct.

In fact Huesmann (1998) refers to a 'normative belief' as a form of cognitive schema, with the term 'normative belief' defined as cognitions relating to the appropriateness of a behaviour. Normative beliefs are a key concept in the aggression literature and are shown to underpin habitual aggression, with the majority of research conducted examining aggression in children and adolescents (Werner & Nixon, 2005). The current thesis considers schemas and beliefs to be different terms to describe the same construct and will predominantly refer to beliefs.

Before outlining the findings examining the influence of attitudes and beliefs over the decision to be aggressive, a final concept presented in the Social

Information Processing models is attributions. Attributions are attempts to determine the causes of the behaviour of others, sometimes the process is applied to our own actions (Baron & Byrne, 2000). Huesmann (1998) claims that attributions are predominantly influenced by schema but attributions can lead to changes in schemas.

There has been much research examining attributions and aggression. Crick and Dodge (1994) reported a commonly occurring bias in aggressive children, something they referred to as a *hostile attribution bias*. A hostile attribution bias is defined as the tendency to judge the actions of others as threatening, aggressive and/or hostile, particularly in ambiguous social situations (Anderson & Graham, 2007). Research has consistently found evidence of hostile attribution bias in aggressors; highlighting a significant influence of attributions of intent in the choice to use aggression (Crick & Dodge, 1996; Helfritz-Sinville & Stanford, 2014). It should be noted however that this research has mostly been undertaken with children and adolescents. This chapter will return later to consider the evidence of attribution processes in the intent to aggress. First, the focus will be on the evidence relating to the influence of attitudes and beliefs in the choice to aggress.

Attitudes and beliefs: Choice to aggress

Each general aggression model outlined in chapter two incorporated attitudes or beliefs as significant factors influencing the choice to aggress. Research into the content and expression of an attitude has revealed three core

components, cognition, affect and behaviour. Ajzen (2005) states that attitudes may be inferred from these three forms of responses: cognitive, affective or behavioural. Maio and Haddock (2010) note that whilst these three aspects may seem related, they are shown to be distinct concepts. That is, it is possible to hold a favourable belief toward an object, whilst also having a negative affective response and an avoidant behavioural response. What is important to note here is that an attitude is much more than simply a cognitive construct, it also comprises emotions and behavioural intentions.

There has been considerable research exploring the link between attitudes and general behavioural intent. A number of studies conducted in the 1960's concluded that the relationship between attitudes and behaviour was weak. It was said that despite stable attitudes and beliefs, behaviour was not consistent over time. This therefore undermined the ability of attitudes to predict behaviour (Ajzen, 2005). This may have been due to the misapprehension that attitudes wholly determined behaviour. It is now accepted that attitudes do, in part, influence behaviour, particularly violent behaviour (Funk et al, 1999).

There are various moderators of this relationship; such as attitude strength, importance and accessibility determine the influence over behaviour (Baron & Byrne, 2000). Others make reference to the influence of peer pressure over the decision to act in line with attitudes (Wallace, Paulson, Lord & Bond, 2005). Whilst the relationship is not perfect, there is a wealth of research

specifically showing a strong link between attitudes and criminal or antisocial behaviour (e.g., Andrews & Bonta, 2010; McGuire, 1995).

Andrews and Bonta (2010) note that the link may be due to a failure to develop *moral reasoning* or the influence of the social environment shaping attitudes towards 'right and wrong'. Moral reasoning is said to be the conscious mental activity evaluating a moral judgement by considering its consistency, or not, with other moral commitments (Paxton & Greene, 2010). Research examining moral reasoning and aggression has found children subject to harsh early experiences may experience delayed moral development and develop hostile perceptions of the world and others (Palmer, 2005). The extent to which a child views aggression as morally wrong is known to correlate with their choice to aggress (Murray-Close, Crick & Galotti, 2006). However, as with attitudes, the link between moral reasoning and behaviour is far from perfect and therefore cannot *fully* explain intent to aggress.

It is not within the scope of the current thesis to examine the wealth of literature relating to moral reasoning. The focus of the current thesis is on those attitudes supportive of aggression, particularly the role of the social environment in shaping such attitudes. In order to understand the link between attitudes and aggression it is useful to consider models which attempt to explain when and how an attitude may influence behaviour.

The *Theory of Planned Behaviour* (TPB; Ajzen, 1991) is one such model. TPB was developed to conceptualise attitudes and health related behaviour. TPB is a revision of the earlier *Theory of Reasoned Action* (TRA; Fishbein & Ajzen, 1975). Both approaches assume individuals are rational and make logical decisions based on available information. Both approaches are based on the notion that a person will usually act in line with their intentions. Yet to understand the *reasons* behind the intent, the determinants of the intent must be identified. TRA suggested that intent to behave in a certain manner is moderated by attitudes, and perceived social pressure (e.g., subjective norms). Attitudes are noted to stem from behavioural beliefs. A behavioural belief is conceptualised as the expectant outcome of any given behaviour. The attitude is the positive or negative evaluation resulting from that expected outcome. This is consistent with SLT's notion of outcome expectancies.

The Theory of Planned Behaviour advanced the TRA by adding an additional moderator, perceived behavioural control. Taken together, an individual is said to be more likely to act in line with their attitudes if the perceived social pressure is in line with their attitudes (normative beliefs) and also if there would *not* be any negative consequences of acting in line with their beliefs (perceived behavioural control). There is significant overlap here with Social Information Processing models of aggression, with both approaches highlighting the role of normative beliefs in behaviour choice.

There is also overlap with general aggression and forensic models in terms of the role of the social environment. TPB suggests that subjective norms (i.e., perceived pressure to perform the behaviour) are underpinned by normative beliefs (i.e., behavioural expectations of valued or referent others). This aspect is consistent with the concepts outlined in Huesmann's Unified model (see Chapter two) and the Multifactor Model of Bullying in Secure Settings (MMBSS; see Chapter three). This particular aspect seems of direct relevance to the forensic setting where it may be assumed social pressure to act aggressively may be greater.

The final aspect to the theory concerns an individual's perception of their ability and resources to perform the behaviour; consistent with SLT's self-efficacy ideas. This perceived behavioural control is underpinned by recognition of factors that could hinder or encourage the behaviour (e.g., individual characteristics and/or aspects of the social or physical environment). However, what is lacking from TPB is explicit consideration of emotion which is defines as a background factor.

Interestingly Ajzen (2005) does suggest that other theories can complement TPB by identifying those background factors of direct relevance such as emotion to a specific behaviour such as aggression. Thus when considering application of TPB to aggression it seems likely that existing models such as the MMBSS could be used. In fact TPB adopts a similar approach to the MMBSS whereby the influence of the social environment (e.g., perceived social pressure) is considered alongside the influence of individual

characteristics, such as attitudes. However, it is debatable whether TPB would consider normative beliefs to encapsulate the social environment.

Research has not brought these two models together to try to explain the aggression which occurs in a forensic setting. For example, an aspect from TPB absent from MMBSS is *perceived behavioural control*. This is arguably captured in the 'environment and prior characteristic pathway' of the MMBSS through the features of the physical environment but is absent from the desensitisation pathway. It could be argued that the key individual characteristic of *perceived behavioural control* (e.g., self-efficacy), also central to general aggression models, is absent from the MMBSS. These aspects were explicit within the IMP and it is important to examine these absences empirically to determine if these aspects are significant in the intent to aggress.

General aggression models also consider the aspects of TPB such as beliefs, attitudes and perceived behavioural control to be important. Both the GAM and the Unified Social Information Processing Model (see Chapter two), place emphasis on a role for beliefs in the initiation of aggressive responding, with beliefs allowing for the accessibility of scripts. The stronger an individual's beliefs towards the value in using aggression (a product of their previous use of aggression and evaluated success of this), the more likely they will be to select an aggressive script when in a challenging situation or when their goal is blocked.

Both models suggest attitudes and beliefs are developed from observation of significant others and are strengthened (and the behaviour maintained) through repeated use of the behaviour and subsequent evaluation of actions (Anderson & Bushman, 2002; Huesmann, 1998; Ireland, 2011a).

In fact, Hosie, Gilbert, Simpson and Daffern (2014) found a significant amount of variance in aggressive behaviour was accounted for by cognitions and affect specified by GAM; specifically trait anger, attitudes and scripts. This study employed a forensic mental health sample, comprising 55 adult men. Whilst this is a small sample it does offer support for the importance of cognitions in the choice to aggress, and in this case, trait affect.

Walters (2011) examined cognitions in a large scale prison sample of adult men in an American medium security facility (n=2,487). Walters claimed that cognition partially mediated the relationship between mental illness and aggressive institutional behaviour. The measure of cognition in this study was the Psychological Inventory of Criminal Thinking Styles (PICTS; Walters, 1995) and thus aggressive attitudes or beliefs represented only a subset of an overall antisocial pattern of cognition measured. It may be that aggressive cognitions would be a stronger mediator in the relationship than Walters observed overall criminal thinking to be. Indeed he concluded that further variables acting as mediators and moderators should be examined in future research such as psychiatric and criminal features.

Beliefs are further important components in aggression (Huesmann, 1998). Studies conducted with children and adolescents consistently found normative beliefs predictive of engagement in aggressive behaviour (Huesmann & Guerra, 1997; Werner & Nixon, 2005). Ireland (2002) emphasises, based on social information processing models (Crick & Dodge, 1994), how beliefs supportive of aggression in prisons could serve to increase the tendency of the aggressor to select an aggressive response since the likely social retribution for an aggressive act is lowered.

In relation to aggression, it may be expected that those using aggression frequently (e.g., perpetrators and perpetrator-victims) perceive the consequences of aggression to be few and hold greater pro-aggressive instrumental beliefs (Ireland, 2002). This may particularly be the case when they are aggressing in a setting which is perceived to support the use of aggression in conflict resolution, such as a prison environment.

In fact these assumptions have been supported with forensic samples. Ireland and Archer (2002) examined beliefs towards aggression in a large prison sample comprising 406 adult prisoners (196 women and 210 men). They found that *both* perpetrator categories were more likely to perceive positive consequences associated with the use of two forms of aggression, specifically theft related and indirect forms of aggression. Interestingly those not involved in aggression reported greater negative consequences arising from more forms of aggression including theft, sexual, verbal and indirect.

The finding that aggressors perceive more positive consequences associated with aggression is consistent with the TPB notion of behavioural beliefs and attitudes (i.e., the positive or negative expected outcome of performing behaviour) and general aggression models such as Social Information Processing approaches (Crick & Dodge, 1994; Huesmann, 1998). However the study did not find positive consequences were expected across all forms of aggression. Rather it showed that those choosing not to engage in aggression perceived more negative consequences. Thus this study arguably offers some insight into understanding of aggression inhibition.

Similar findings have been replicated in other forensic samples such as forensic psychiatric samples, particularly those presenting with personality disorder (Gilbert & Daffern, 2011). For example, studies examining normative beliefs claim to observe greater prevalence of pro-aggressive beliefs such as 'violence as the only solution to interpersonal conflict', 'violence as a routine, normal occurrence' and 'violence as necessary to achieve and maintain social standing' in violent offender samples (Coid, 2002; Polaschek, Calvert & Gannon, 2009; Gilbert & Daffern, 2011).

Other research has failed to find support for the role of beliefs in prison aggression. Lahm's (2008) study, as noted earlier, involving 1,054 adult men sought to test Thomas's (1970) Importation Model assumption that prior criminal or violent beliefs predicted who would act violently in prison. The participants were asked to rate their beliefs *prior* to entering the prison system, no relationship was observed between beliefs and aggressive

behaviour whilst in prison. However, this study retrospectively asked participants to assess their beliefs and this may have led to inaccurate measurement of prior beliefs as it relies on participants to have insight and be able to reflect on any change in beliefs since being imprisoned. Lahm advocated use of a longitudinal design to fully assess the impact of prior beliefs in order that any change in beliefs over time can be clearly seen.

Archer and Haigh (1997a) also attempted to examine the relationship with beliefs and aggression by examining specific types of beliefs in a student sample of 100 men and 100 women, mean age 26.1 and 24.1 respectively. They examined whether expressive and instrumental beliefs about aggression could predict engagement in aggression. They found higher instrumental beliefs predicted greater self-reported engagement in physically aggressive acts. The same finding was not observed with expressive aggressive beliefs, showing only a low negative correlation with physical aggression. The measure therefore showed support for the link between instrumental beliefs and aggression in a non-offending sample. However, this finding was not replicated with an offender sample.

Archer and Haigh (1997b) repeated the study using a sample of 62 men and 47 women from UK prisons. This study found greater expressive beliefs in those not convicted of a violent offence compared to the violent offenders and observed no significant difference on instrumental beliefs; contrasting to the association between instrumental beliefs and aggression observed with the student sample. Both studies do find less support for a link between

expressive beliefs and aggression. However it may be that the EXPAGG measure, used in both studies, is less reliable in measurement of expressive beliefs. It may also be that the AQ physical aggression scale best represents instrumentally motivated aggression.

A later study again found a positive correlation with instrumental beliefs and aggression with a community sample including intimate partner aggressors (Archer & Graham-Kevan, 2003). The sample was obtained from a university, domestic aid refuges and UK prisons. A total of 115 participants reported acts of violence toward a partner; 40 students (11 men, 29 women), 46 adult men from a prison and 29 women from a shelter. Archer and Graham-Kevan (2003) found instrumental beliefs predictive of physical aggression and injuries inflicted. Again this may show support for the AQ physical aggression scale best representing a measure of instrumental aggression. However the study employed a diverse sample and there are other confounding factors such as sex which may explain the findings.

Holland, Ireland and Muncer (2009) also found support for greater instrumental beliefs in aggressors and lesser association with expressive beliefs. This study also used the EXPAGG measure with 138 incarcerated adult men. Holland et al found that instrumental beliefs were more prevalent and argued this was a result of aggressors likely justifying their aggression. These findings of a relationship between instrumental aggressive beliefs only may be limited by the content of the items in the measure used, that is, the EXPAGG measure may not truly be measuring expressive aggressive

beliefs. Nonetheless, what the findings do highlight is the complexity of beliefs supportive of aggression and the heterogeneity of beliefs towards aggression.

In addition, the results of the studies noted here highlight the value in Social Information Processing Theory, and how it can allow us to predict that those who use aggression and thus perform aggressive scripts more frequently (e.g., perpetrators and perpetrator-victims) would be more likely to hold beliefs supportive of aggression. Indeed both the Unified Social Information Processing Model and the GAM model highlight the importance of interacting factors in producing an aggressive response. Although each may place different emphasis on different aspects, both share a core facet in highlighting the importance of beliefs. Other forms of social cognition have been shown to be important in influencing the choice to aggress, one of these being attributions.

Attributions

Social Information Processing models, such as that of Huesmann (1998) and Crick and Dodge (1994), place emphasis upon the role of attributions in the decision to aggress. As noted earlier, an attribution is the attempt to understand the causes for the actions and behaviour (Baron & Byrne, 2000). The basis for the emphasis on attribution in the aggression field is the wealth of research identifying attribution biases in those who regularly use aggression.

Research has consistently found a significant association between hostile attribution of intent and aggressive behaviour, in hypothetical and real situations (De Castro, Veerman, Koops, Bosch, & Monshouwer, 2002). This is particularly likely to occur when the attribution bias is also accompanied by high levels of trait anger (Bettencourt, Talley, Benjamin & Valentine, 2006).

Research examining the attributions of adults has supported the link with hostile attribution biases and aggression. Chen, Coccaro and Jacobson (2012) measured hostile attribution, affect and aggression in an American study with 7,282 adult twins from the general population. They found significant independent main effects with hostile attribution and aggression, even after controlling for negative affect. Chen et al found impulsivity and sex moderated the relationship between hostile bias and aggression. This implies that hostile biases may operate more frequently when the individual is impulsive. Chen et al (2012) stated that the findings from previous research with children could be applied to adult samples but required further investigation with other samples to confirm the finding regarding the role of impulsivity.

Some limited research has been conducted on adult forensic samples and does suggest evidence of a relationship between attributions and aggression. Lim, Day and Casey (2011) reported violent offenders to be more likely to interpret hostile intent than their non-violent counterparts. Their sample consisted of 76 adult men from a prison in Singapore; of which 38 were

convicted of a violent index offence and 38 of non violent offence. However, the study employed a small sample and it is not known if the sample were matched according to other variables. The authors reported minimal differences between violent and non-violent offenders on self reported levels of state anger; which may be due to the non-violent offenders being more similar across other variables. Yet the authors claimed that this provided support for the greater role of attribution bias over anger in aggressors. They reported the attribution of hostile intent accounted for twice the variance than levels of trait anger.

McNiel, Eisner and Binder (2003) reported an association between aggressive attributional style and increased violence in 110 psychiatric patients. They argued that attributional style was a significant cognitive mediator of aggression. Vitale, Newman, Serin & Bolt (2005) also examined attributional style in a forensic sample of 150 incarcerated men from low, medium and maximum security facilities. Vitale et al proposed two pathways toward hostile intent; one was related to a depressogenic attributional style (tending to see the world, the self and others negatively) and the other was related to the personality construct of psychopathy.

In terms of the latter Vitale et al found that hostile attributions were related to underlying personality characteristics such as hostile, callous and self-serving attitudes. These studies show that the intent ascribed to others influences personal intent to aggress and appears to imply that attributions in forensic samples may underpinned by stable traits.

Lobbestael, Cima and Arntz (2013) also reported an association between stable personality traits and attributions. The study employed 66 Dutch adult men (22 from an inpatient forensic unit, 15 from a community mental health team and 29 from the general population). They found reactive aggression was best predicted by antisocial personality traits and tendency to interpret hostile intent. They claimed the relationship was specific to hostile attribution bias and not global interpretation bias. Interestingly this study found no relationship between attribution bias and proactive aggression. However, as others have noted, proactive aggression may be conceptualised as a more pathological form of aggression (Cima et al, 2013) and in this small sample of only 22 forensic patients, it seems unlikely a strong relationship would be observed.

Thus the research conducted to date exploring aggression and attribution with forensic samples has only utilised small samples and it seems valuable to further examine the influence of hostile attributions in aggression in forensic settings. Thinking of those acting aggressively in forensic settings, it should perhaps be expected that hostile attributions are more prevalent in perpetrator-victim groups rather than pure perpetrators. Conversely, others have argued that there is no difference in terms of attribution bias between proactive or reactive aggressors, rather than the differences exist primarily on the dimensions of personality (Miller & Lynam, 2006). These studies highlight an important association between attributions, attitudes and personality factors. Specific findings in relation to personality will be examined later.

Summary

The Theory of Planned Behaviour attempts to explain *how* and *when* attitudes will influence intent to aggress. Research suggests the model cannot adequately explain aggressive behaviour but may add something to existing forensic models such as the Multifactor Model of Bullying in Secure Settings (MMBSS) to explain the role of attitudes and beliefs. For example, TPB highlights the influence of subjective norms over the choice to act in line with aggressive beliefs whilst the MMBSS outlines specific aspects of the forensic setting influencing subjective norms.

However, specific research examining the relationship between attitudes, beliefs and aggression with forensic samples is sparse. Initial findings suggest those who aggress more regularly in the forensic setting hold beliefs supportive of aggression. The role of aggressive attitudes and belief systems therefore warrants further exploration when examining the intent to aggress in forensic settings to fully understand specific cognitions influencing the choice to aggress.

Conversely, there is much research examining the role of hostile attributions. The majority of this research has been conducted with children and adolescents and implies hostile attribution biases influence the choice to aggress. Some research has found support for applying these findings to adult samples but there are suggestions that this relationship is moderated

more by personality characteristics than the attributional style. This chapter will now examine the specific research in to the influence of personality over the choice to be aggressive to determine if this is of relevance to intent to aggress in forensic settings.

4.3   Personality and aggression

General aggression models and forensic models of aggression suggest personality traits influence the decision to aggress. The focus in forensic research has tended to be on psychopathology rather than the broader concept of personality. Personality reflects a stable way of thinking, feeling and acting (Andrews & Bonta, 2010). It is perhaps one of the most significantly researched areas in psychology, with much debate about the basic dimensions or traits said to underpin observed differences between individuals.

Various models have been proposed to describe the core dimensions or traits found across cultures, such as Cattell's 16 Personality Factors and Eysenck's three dimensional model. Cattell used a lexical approach to study personality. The lexical approach to personality research is based on analysis of language to described character and behaviour. The approach seeks to reduce the terms to one fundamental trait with few synonyms.

Cattell analysed the language used to describe personality and argued for the existence of 16 primary personality dimensions including traits such as

shy, reactive, vigilant and lively. Conversely Eysenck started his examination of personality from a theoretical stance. He argued for three primary traits introversion-extraversion, emotional stability (e.g., neuroticism) and psychoticism (said to be a predisposition towards detachment from others). He suggested individuals could be judged on the extent to which they possess high or low levels of the three traits. Whilst Eysenck and Cattell adopted different approaches to the study of personality it is argued that they produced distinct similarities; with factor analysis of Cattell's traits mapping onto the concepts described by Eysenck (Carver & Scheier, 2000). Thus whilst different models exist it seems they are ultimately examining the same core traits.

Research has attempted to examine the extent to which the basic personality traits proposed by each model underpin antisocial behaviour. Early research found strong associations with traits such as impulsivity (Andrews & Bonta, 2010), negative emotionality (Jones, Miller & Lynam, 2011), psychoticism (Carrasco, Barker, Tremblay & Vitaro, 2006).

A study conducted with 442 incarcerated adult men in the UK found agreeableness to be the most frequently reported trait (Ireland & Ireland, 2011). This contrasts to typical findings with antisocial samples and the authors argued for consideration of the presence of positive traits among such samples rather than focus on maladaptive traits. However, the study of antisocial behaviour includes many more acts than aggressive behaviour

(e.g., risky sexual behaviour, theft) and thus these findings cannot simply be applied to aggression without consideration of this.

When aggression is studied in isolation from antisocial behaviour evidence has been argued for an 'aggressive personality style' consisting of impulsivity, anger, hostility, psychoticism and neuroticism in clinical samples (Stanford, Houston, Villemarette-Pittman & Greve, 2003). Others have reported high levels of narcissism relate to increased aggression in non-clinical samples (Egan & Lewis, 2011; Reidy, Zeichner, Foster & Martinez, 2008). There is also said to be a link between high levels of aggression and diagnoses of personality disorder.

Personality disorder represents a maladaptive pattern of personality traits leading to impairments of an individuals functioning (American Psychiatric Association, 2013). The link between personality disorder and aggression is said to be due to increased levels of antagonism and hostility observed across a range of these disorders (Burke & Hart, 2000).

Traditionally, personality disorder has been examined in terms of diagnostic criteria rather than core personality constructs or traits. There is acceptance that personality disorder can be more helpfully examined by focusing on core personality traits or dimensions, rather than diagnostic criteria. In fact DSM-V (American Psychiatric Association, 2013) has presented an alternative method of examining personality disorder using a trait based approach to

personality, the Five Factor model of personality (FFM; Costa & McCrae, 1992).

There is said to be emerging consensus that there are five major dimensions of basic personality, with the most widely accepted model encapsulating this being the FFM (Andrews & Bonta, 2010; Egan, 2009; Jones, Miller & Lynam, 2011; Miller & Lynam, 2001) which has a basis in Eysenck's three dimensional model (Eysenck & Eysenck, 1985). The FFM comprises of Extraversion, Emotional Stability (Neuroticism), Agreeableness, Conscientiousness and Openness/Intellect (see Goldberg, 1990; Goldberg & Rosolack, 1994). It should be noted that there are concerns with applying general models of personality such as the FFM to special subgroups such as forensic samples, who, it is argued are likely to display "*more extreme loadings on certain traits*" (Ireland & Ireland, 2011). Nevertheless, there is support for considering the possible influence of personality in behaviours such as aggression (Jones, Miller & Lynam, 2011; Miller & Lynam, 2001).

In general samples, personality has been shown to relate to self-regulation, such as the ability to inhibit aggression (Jensen-Campbell, Knack, Waldrip, & Campbell, 2007), and as such it is an important concept to examine. Furthermore certain personality traits are argued to help the individual resist the environmental influences that may facilitate aggressive behaviour (Egan, 2009). Ireland and Ireland (2011) add to this by suggesting that the use of the FFM in forensic samples permits exploration of personality strengths and can assist in the design and delivery of therapeutic interventions.

Research has examined a link between personality traits and general aggression with a commonly found association between high neuroticism and low levels of aggression (Hernandez & Mauger, 1980; Sharpe & Desai, 2001; Stanford, et al, 2003; Tremblay & Ewart, 2005), and between increased extraversion and increased antisocial behaviour (Cale, 2006; Eysenck, 1996). Agreeableness also has a relationship with aggression, with *higher* agreeableness relating to *lower* aggression (Gleason, Jenson-Campbell & Richardson, 2004). Gleason et al explain how this is due to agreeableness being related to one's motivation to maintain positive interpersonal relationships, thus being negatively linked with aggression towards others. High conscientiousness scores also appear linked with self-control and thereby lower aggressive responses (Jensen-Campbell et al, 2007; Sharpe & Desai, 2001).

Collectively, however, there is stronger support for the role of [low] agreeableness and [high] neuroticism in aggression expression, than for the other facets of the Five Factor Models of general personality (Caprara, Barbaranelli, Pastorelli, & Perugini, 1994; Egan & Lewis, 2011; Miller & Lynam, 2001; Miller, Zeichner & Wilson, 2012; Siebert et al, 2010).

A recent meta-analysis of 53 forensic and non-forensic studies published since 2000 conducted by Jones, Miller and Lynam (2011) found the greatest support across the five domains for low agreeableness being linked to higher levels of aggression, followed by low conscientiousness, with a weaker association with high neuroticism. Grumm and Collani (2009) argued for

general aggressiveness being underpinned by a configuration of high neuroticism, low extraversion, agreeableness and conscientiousness. The sample was an undergraduate student sample of 116 women and 25 men. It could perhaps be assumed that the level of self reported aggression shown in a student sample would vary greatly to that shown in a forensic sample and thus the findings cannot automatically be generalised.

Research conducted with forensic samples is limited. Trninic, Barancic and Nazor (2008) compared 106 incarcerated adult men in a prison in Zagreb to 109 student men. They found associations between aggression and low levels of agreeableness and conscientiousness in the forensic sample; conversely associations were found with extraversion in the student sample.

A more recent study with 101 Polish men and women prisoners only found support for agreeableness being negatively related to sensitivity to provocation (Zajenkowska, Jankowski, Lawrence & Zajenkowski, 2013). The measures examined the extent to which specific situations would make the participants feel aggressive.

Interestingly, this study also employed a student sample of 300 and found strong relationships with high neuroticism and low agreeableness being related to higher sensitivity to frustration and provocation in the non-offender sample, consistent with previous research. It could be argued that the measure used in this study gauged aggressive *intent* rather than aggressive *behaviour* which may lead to the different relationships observed with

personality. With this in mind it may also be that the student sample were more aware of such intent (i.e., more insightful into intentions) than the offender sample.

Another study which examined FFM traits with a forensic sample was conducted by Lee and Egan (2013). They examined personality traits in 114 women prisoners from South East Asia and reported low levels of agreeableness and impulsivity predicted self reported engagement in physical and verbal aggression. Unfortunately this study omitted the measurement of conscientiousness, in an effort to reduce the measures administered. The authors argued that this trait was captured by the measures of impulsivity.

Impulsivity in this study was found to positively correlate to all variables measured in this study (verbal and physical aggression, anger, hostility, neuroticism, agreeableness, psychopathy and empathy). The results showed that the impact of psychopathy was lessened if impulsivity was considered. Lee and Egan concluded that impulsivity is a more plausible mediator of the relationship between personality and aggression rather than psychopathy. This study advances the literature as it identifies a mechanism of impulsivity as a link between personality and aggression.

Another study examining the influence of personality traits and aggression was undertaken by Skeem, Miller, Mulvey, Tiemann and Monahan (2005). They used data gathered for the Macarthur Violence Risk Assessment study;

their sample comprised of 769 psychiatric patients who had completed a measure of the five factor traits, the NEO-FFI. Skeem et al found evidence for a moderate association with low agreeableness and violence and a weaker association with neuroticism. That is, a disregard for maintaining equitable relationships and emotional instability were related to aggression. They did not find evidence of a relationship between violence and conscientiousness.

The authors argued that the NEO-FFI measure used may not have adequately assessed traits of conscientiousness. It was also posited that this trait may be less relevant for psychiatric patients than general aggressors. This particular claim is perhaps surprising as a stronger relationship may be expected in psychiatric patients owing to increased levels of impulsivity shown in certain disorders (Moeller et al, 2001). Skeem et al concluded that impulsivity may explain the relationship with violence and personality.

Impulsivity as a trait has been reported as a significant variable in other studies examining aggressive and violent behaviour (Carrasco, Barker, Tremblay & Vitaro, 2006; Craig, Browne, Beech & Stringer, 2006; Stanford et al, 2003). Smith and Waterman (2006) also reported a strong association between impulsivity and aggressive behaviour. The study contained violent (n=57 men, 66 women) and non-violent offenders (n= 58 men and 67 women) and undergraduates (n= 114 men and 122 women). The results revealed a significant relationship between impulsivity and aggression across the offender and non offender samples. Importantly the study measured

aggression using a self report measure which may have compensated for a traditional method of assigning offenders to the violent or non-violent condition using only the self reported index offence. Other studies classify participants based on one act (i.e., the index offence) and this does not fully capture aggressive behaviour. Thus this study truly assessed levels of aggression rather than an arbitrary category.

These findings relating to impulsivity and aggression are interesting to consider. Classically impulsivity is labelled as temperament (Carver & Scheier, 2000) and can be considered synonymous with personality traits. Eysenck considers impulsivity to be a trait seen in individuals with high levels of extraversion and emotional instability (neuroticism). Thus in this way it is simply seen as a personality trait rather than a distinct concept. In terms of the FFM approach impulsivity may be represented by an absence of conscientiousness.

Indeed the relationship with general aggression literature points to low levels of conscientiousness relating to aggression (e.g., Jensen-Campbell et al, 2007), which may in part be explained by associated high levels of impulsivity. It would have been useful to determine whether there was a correlation between impulsivity and conscientiousness in the study by Lee and Egan. Unfortunately this FFM trait was omitted from their study in an effort to reduce the measures given to participants.

Jones, Miller and Lynam (2011) argue that impulsivity and self-control are captured by the FFM traits of neuroticism, extraversion and conscientiousness. Miller, Zeichner and Wilson (2012) found evidence for conscientiousness-related (failing to consider consequences) and neuroticism-related (acting impulsively when emotionally dysregulated) forms of impulsivity significantly correlating with aggression. Thus it seems that studies examining the FFM traits are therefore also evaluating the degree of impulsivity present. Others have argued that traits such as neuroticism and conscientiousness predict anger levels (Decuyper, De Bolle & De Fruyt, 2011) which may indirectly link to impulsivity and aggression.

Efforts have been made to further examine the relationship between the FFM personality traits and specific types of aggression. Hansen et al (2011) focused on intimate partner aggression and observed agreeableness and young age predicted general violence, consistent with previous research. The sample included 92 incarcerated adult men from Norway, 73 of which reported a history of intimate partner violence. They reported intimate partner aggression was best predicted by the addition also of anxious attachment styles. The authors argued that different types of violence could have different correlates. However, this sample was not large enough to compare the groups (intimate partner aggressors and non-intimate partner aggressors) to determine whether there were differences on attachment styles. The finding that attachment style did not relate to general violence may relate to the study examining violent convictions rather than patterns of violent behaviour.

Other research examining different forms of aggression has explored the relationship between personality and motivation for aggression. Egan (2009) claimed that aggressive behaviour related to neuroticism is more impulsive and emotionally driven (i.e., reactive). In fact, Miller and Lynam (2006) found neuroticism to be strongly correlated with reactive aggression in a student sample of 105 men and 106 women; with reactive aggression being more strongly correlated to each of the facets of neuroticism than proactive aggression.

Interestingly Miller and Lynam reported high similarity between the personality signatures of reactive and proactive aggression, suggesting it is neuroticism which distinguishes the two motivations for aggression. This finding of similarity may be due to the student sample. It may be that greater personality differences are observed in individuals who enact more frequent aggression and tend to favour the use of proactive or reactive. They did observe differences on the extent to which proactive aggressors engaged in other problematic behaviours such as substance use. They argued levels of neuroticism in reactive aggressors may inhibit engagement in such behaviours.

Bettencourt et al (2006) partially replicated the relationship with neuroticism and aggression in their meta analysis. Bettencourt et al and claimed that neuroticism was most predictive of aggression under provocation and antagonism (low levels of agreeableness) was predictive of a proneness to react aggressively across situations.

The authors did urge caution however as many of the studies included in the meta analytic review did not clearly consider the motives or functions of the aggressive behaviour and so their findings are deemed tentative. It will be useful to determine the extent to which this initial finding is replicated in a forensic sample. Were this finding to be reliable, it would be expected that the mutual perpetrator-victim group would show greater levels of neuroticism and the pure perpetrator group lower levels of agreeableness, based on the findings that the former group tend to enact more reactive aggression.

Jones, Miller and Lynam (2011) claim that examination of the *facets* of the five dimensions lead to stronger observed relationships between personality and aggression. Costa and McCrae's FFM model comprises of the five core dimensions which are underpinned by six specific concepts or facets. Jones, Miller and Lynam (2011) explain that a much stronger relationship is observed between the facets of neuroticism and aggression, namely impulsivity and angry hostility. Interestingly they reported each of the 12 facets of agreeableness and conscientiousness emerged as significant correlates with aggressive behaviour. They argue that greater understanding of the factors leading to aggression can only be achieved using the narrower constructs of the traits. Research examining the facets is minimal, perhaps due to the extended assessment necessary to examine the facets compared to the higher order dimensions.

More recently, there have been attempts to advance understanding of the relationship with personality and aggression by integrating aggression theory

and the FFM. Bartlett and Anderson (2012) aimed to bring together GAM and FFM. Their results indicated direct relationships between physical aggression and openness, agreeableness and neuroticism. They reported *indirect* effects for violent behaviour via aggressive attitudes, emotion, openness, agreeableness and neuroticism. The study defined violent behaviour as having more severe consequences than physical aggression. This proved a useful distinction to make in the study, given two different pathways were observed.

Hosie et al (2014) also attempted to test the application of the aspects of the GAM in a forensic mental health sample of 55 men. They reported low conscientiousness *and* low agreeableness to relate to aggression. They reported correlations with trait anger and aggressive script rehearsal, but not with normative beliefs. Hosie et al argued that other concepts of GAM (script rehearsal and trait anger) contributed more to the prediction of aggression than personality. Thus when a holistic approach is taken to the contribution of different factors, it seems the role of personality is perhaps not as influential as cognitions.

The studies of Hosie et al and Bartlett and Anderson, attempting to determine the aspects of existing models which can predict aggression, appear to be in the minority. Furthermore, Bartlett and Anderson used a large sample of 1220 general participants; it is important to ascertain the contribution of the different individual differences in the intent to aggress in forensic settings. There is a need to determine whether the findings relating to specific

individual differences do indeed transfer to forensic samples, who arguably engage in more frequent and severe acts of aggression.

Finally, it is also argued that the relationship between personality and aggression does not assist in understanding *why* a person chooses to aggress. That is, the relationship between personality and aggression is said to be descriptive rather than explanatory and work is needed to consider the mechanisms which connect stable traits and aggression (Cale, 2006; Miller & Lynam, 2001). For example, it is important to consider the motivation of aggressive acts to further the understanding of the mechanism linking personality and aggression.

Miller and Lynam (2001) propose two mechanisms or routes by which personality can impact. They argue that personality traits can influence behavioural at a distal level, by placing individuals in contexts in which the behaviour is more likely. Equally they assert that personality can have proximal influence, by influencing the way in which the situational cues are interpreted (e.g., the impact of certain traits on information processing systems). It seems both explanations are of importance to forensic settings and will benefit from further exploration.

4.4   Concluding comments

Overall, there is support for the role of individual characteristics in the choice to aggress. Factors such as beliefs and attitudes are found, in general

samples, to influence behaviour choice (Huesmann & Guerra, 1997; Werner & Nixon, 2005). Research in forensic samples provides initial support for this but would benefit from further exploration to ascertain whether attitudes and beliefs do indeed contribute to the intent to aggress (Archer & Haigh, 1997b; Holland et al, 2009; Ireland & Archer, 2002). Whilst influential, attitudes and beliefs are not shown to always lead to the behaviour consistent with the belief (Baron & Byrne, 2000). The Theory of Planned Behaviour (Ajzen, 1991) was developed to explain when this is most likely, suggesting social support (e.g., consistent subjective norms) and self efficacy to be important. This model potentially has much to offer wider more complex models of aggressive behaviour, particularly those such as the MMBSS.

Personality is another key individual characteristic which has warranted investigation to examine whether stable traits underpin the use of aggression. Findings again are sparse amongst forensic samples, but preliminary studies find support for low levels of agreeableness and conscientiousness and high levels of neuroticism (Jones, Miller & Lynam, 2011; Hansen et al, 2011; Lee & Egan, 2013; Skeem et al, 2005). It will be important to discover if these findings are replicated across a forensic sample and to what extent they are influential in the choice to aggress. What is clear is that individual characteristics alone do not determine the choice to aggress. Research and theoretical models highlight the interaction of such factors with the social environment. The role of the social and physical environment will be reviewed in the next chapter.

Chapter 5

FORENSIC ENVIRONMENT AND AGGRESSION

5.1   Structure of the chapter

The preceding chapters indicated that whilst individual characteristics influence aggression, the environment must also be accounted for as aggression that occurs in forensic settings is a result of the *interaction* between individual *and* environmental factors (Ireland, 2002). Indeed some argue (Mooney & Daffern, 2011) that institutional aggression is not representative of how the individual may behave outside the institution, with the forensic institution suggested as instrumental in the decision to aggress due to aspects such as the organisational structure. However, research has tended to focus almost exclusively on individual characteristics leading to aggression, neglecting to identify the aspects of the setting which also contribute.

Ireland (2002) highlights the influences of both the *social* (e.g., attitudes held by all in the institution, subculture) and the *physical* (e.g., structure of the buildings, staff levels) environment in the rates of aggression observed. This chapter will review the direct and indirect effects of the forensic environment on aggression; examining first the impact of the social environment over prisoner behaviour and staff attitudes and, second, the influence of the physical aspects of forensic settings.

5.2   The influence of the forensic environment

Various criminological theories place emphasis on situational factors in the decision to commit crimes such as aggression. Chapter three outlined the contributions made by these theories such as the Deprivation Model to understanding factors associated with aggression in the prison environment. The current chapter seeks to advance this understanding by examining research which has highlighted the environmental characteristics facilitating aggression.

Gadon, Johnstone and Cooke (2006) conducted a systematic review of situational risk factors associated with increased violence across forensic settings including hospitals and prisoners. Caution was urged however as research reviewed rarely distinguished between aggression and other forms of misconduct. As noted earlier, applying the findings from studies of antisocial behaviour or general misconduct to aggression may confound the findings. Nonetheless, they concluded there was evidence for situational variables contributing to aggression in forensic settings. Indeed Cooke and Johnstone (2010) argue that risk in institutions cannot be effectively addressed without attention to situational variables.

Forensic models of aggression outlined in Chapter three have incorporated these core ideas and seek to identify the core environmental conditions which, when combined with specific individual characteristics, promote the choice to aggress. The Multifactor Model of Bullying in Secure Settings

(Ireland, 2012) is one such model which advocates components of both the *social* and *physical* environment should be considered. Aspects of the social environment deemed influential by MMBSS include authoritarian/hierarchical structure, the resident subculture and importance of status, which stems from the wider criminological research identifying the correlates of violence in prisons (e.g., Homel & Thomas, 2005).

MMBSS argues that a structure focusing on rules and hierarchies can encourage aggression as such a focus places those new to the setting in a position of weakness to those who are familiar with the regime. Ireland (2002) suggests that the latter group are able to take advantage of those less experienced. Some support has been found for the link between regulations and aggression, with positive associations between perceptions of greater rules, regulations and security and engagement in aggression in incarcerated adult men (Allison & Ireland, 2010).

A recent review of research in psychiatric settings concluded organisational structure frequently correlated with conflict; specifically in terms of the way in which the structure is implemented and imposed (Bowers et al, 2014). Conversely Katz and Kirkland (1990) found highly structured schedules to *reduce* inpatient violence on psychiatric settings, when combined with other variables such as competent staff and supportive interpersonal interactions. This particular study pointed to the importance of attending to the components of organisational structures in facilitating or reducing aggression.

The following section presents an overview of the influence of organisational structures and systems over aggression (i.e., the social environment).

5.3   Forensic social environment: Influence over prisoner behaviour

The legitimate structure of the establishment is said to be mirrored in the subculture amongst residents. The subculture is argued to be as important as pre-existing individual characteristics (Feld, 1981). It is suggested that subscription to the subculture can alter pre-existing individual traits, in line with Deprivation model ideas of the significant influence of the establishment over residents' behaviour. Accounting for the subculture and the impact on individuals attitudes is therefore important when examining the choice to aggress.

Lerner (1980) proposes that prisoners adopt a *just world* view of aggression within prison, altering their belief systems to judge victims as deserving of aggression as part of the prison system. Such beliefs serve to assist people to cope with perceived injustice and personal deprivation experienced in the prison environment (Begue & Muller, 2006).

Research supports this assertion, with mutual perpetrator-victims found to be similar to perpetrators in relation to their attitudes towards victimisation, despite themselves being victims (Palmer & Begum, 2006). The authors suggest that this may be evidence of this group conforming to the social hierarchies of the prison environment and adopting just world views in

relation to their own victimisation. However, it may also be that the group already hold such beliefs that determine their use of aggression.

This altering of beliefs is said to occur in the context of 'prisonization' and may not be true of many individuals when outside the prison environment. Clemmer (1940) first explored the concept of prisonization and defined it as the acceptance of the 'folkways', namely customs and overall culture of the forensic establishment. This is no different to how the standards and norms of wider society are assimilated. Within the prison subculture there exists a series of unwritten rules that govern the behaviour of those who subscribe, otherwise referred to as the 'inmate code'.

Walters (2003) explains that this is a temporary adoption of rules and is adaptive as it helps the individual adjust to the unfamiliar setting. It is thought that the shift in attitudes is not a true acceptance of the values and attitudes typically antagonistic towards authority but merely a temporary shift. Research has supported this, finding beliefs *prior* to entering the prison environment to be less significant than prior criminal behaviours in the prediction of violence (Lahm, 2008) thereby supporting the notion of temporary shifts in attitudes. Although it should be noted that this study asked prisoners retrospectively to recall beliefs prior to entering prison and longitudinal research would be required to confirm the conclusions made in this regard.

It is proposed that the conditions of the prison environment and the deprivations of freedom enable antagonistic views to flourish (Byrne & Stowell, 2007) as prisoners resent the restrictions and deprivations enforced and rebel against authority. Wellford (1967) noted how the 'inmate code' comprises of norms guiding behaviour of prisoners, often contrary to the behaviour expected by the establishment. In fact it is said that behaviour such as aggression which would be judged unacceptable in wider society is rewarded and promoted in the prison setting (Dobbs & Waid, 2005). Thus, prisoners are said to adopt the 'inmate code' and the attitudes and beliefs that accompany it as a survival mechanism (Tittle & Tittle, 1964; Paterline & Petersen, 1999) and thereby justifying any departures from their typical behaviour and/or beliefs.

Research has claimed to find links between adoption of the 'inmate code' and aggression. Shoham et al (1989) examined 120 adult men from a prison in Israel and found that those who conformed to the 'inmate code' were more likely to act violently than those who rejected this. Shoham et al suggested those individuals adopting such an anti-authoritarian code tended to be reactive aggressors; with the proactive group tending to view violence in prison as incurring too many costs. This is perhaps contrary in some ways to the notion of the 'inmate code' as it may be expected that the code would promote instrumental acts of aggression to secure position in the prison. Further research would need to be conducted to determine whether this finding is a true finding.

Others have found links between adoption of the prisoner subculture and aggression, South and Wood (2006) reported those who engage in aggression in prison (pure perpetrators and mutual perpetrator-victims) were more likely to value the importance of social status and position in the cultural hierarchy than non-aggressors. As adoption of the inmate code would promote the choice to aggress in prison owing to the high value placed on aggression.

South and Wood's study was conducted with 132 adult men from six UK prisons. Importantly the sample sites differed, ranging from category B through to category D establishments. Category B establishments house prisoners deemed to pose and medium to high risk to the public, category C are deemed medium/low security whilst category D are classified as low security resettlement prisons. This is highlighted as it may be assumed that social status in the prison would be less important to those in the category D prisons, likely to be leaving the prison system. However, it may also be that those in the category D establishments had served longer sentences and thus placed greater value on the cultural hierarchy.

Indeed the study did show an association between total time spent in prison and perceived importance of social status. Unfortunately the study did not examine differences across the sample to ascertain the influence of the setting and thus it is not possible to conclude whether the total time or prison security category or indeed both were the influential factor(s).

Conversely, some research has reported an indirect relationship between the 'inmate code' and attitudes supportive of aggression. Paterline and Petersen (1999) reported positive attitudes towards violence and aggression were the strongest predictor for adopting the inmate code in a sample of 239 men from an American maximum security prison. They argued that both individual characteristics prior to entering the prison system and the influence of the institution were needed to account for the choices made by prisoners. Thus, prisoners who do not hold attitudes supportive of aggression prior to entering prison could arguably be in a position where they must make modifications to their belief systems to protect their self-esteem.

The function of such reasoning is ultimately to reduce psychological discomfort. This is in line with *cognitive dissonance theory* (Festinger, 1957) where we seek to act in a manner which is in line with our belief systems, as behaviour contrasting to our attitudes creates psychological discomfort. This is also consistent with *Self-Categorisation Theory* (Turner, 1987) which suggests individuals adopt the standards and beliefs of a particular reference group to reduce dissonance. The theory points to the flexibility of attitudes according to situational demands; namely that attitudes may be adapted to coincide with the environment and valued others. Therefore, it could be expected that in a forensic environment where aggression is more frequent, some may have to alter their attitudes to reduce dissonance associated with acting contrary to this.

Others report how the social environment can impact on not only attitudes but also personality functioning. Van de Helm, Stams, van Genabeek and van der Laan (2012) examined the influence of the social climate on the functioning of 59 young offenders in the Netherlands. They found evidence of an 'open' climate led to more positive social interactions, with the open climate protecting against aggression due to the associated low levels of neuroticism and high levels of openness and agreeableness. An 'open' climate was said to consist of structure, safety and rehabilitation whilst a 'repressive' climate is defined by increasing levels of distrust and hostility.

Interestingly the repressive climate did not relate to self-reported aggression. The authors claimed that the repression did not worsen the personality functioning already evident. The authors acknowledge that a number of other variables not measured could have determined the findings such as empathy, cognitive styles and moral judgements. However, it is important to the current thesis to observe the apparent transactional relationship between personality traits and the social environment, as the thesis is seeking to identify the individual and environmental factors influencing the intent to aggress.

5.4   Forensic social environment: Staff attitudes

The MMBSS (Ireland, 2012; see Chapter three) includes attention to staff attitudes, claiming these to form an integral part of the social environment. Attitudes held by staff can have the potential to facilitate or inhibit the use of

aggression (Ireland, 2002). The following section will review the evidence for the influence of staff attitudes, examining attitudes towards aggression and attitudes towards prisoners in general.

Staff attitudes and understanding of aggression

Research with staff samples claims that prison officers may develop attitudes in line with prisoners, fostering antisocial behaviour and adopting the cultural values of the prisoners (Gendreau & Goggin, 1999). Therefore, it is possible to assume that attitudes permissive of aggression may develop in cultures where aggression is frequent and accepted by the majority.

Ireland (2002) notes how attitudes normalising and expecting aggression to occur are perhaps one of the most influential elements of the social environment. Normative beliefs were considered in terms of individual characteristics in Chapter three. The normative beliefs held by staff are of equal importance. Daffern and Howells (2002) suggest an acceptance of aggression is commonplace within psychiatric inpatient settings due to the frequent occurrence. The authors argue that these attitudes of acceptance can lead to increased aggression in these settings. Ireland (2002) contends that attitudes of indifference can also promote aggression in secure settings.

There has been considerable research examining staff attitudes to aggression; focusing on the way in which staff perceive aggression and its causes, and how this can relate to attitudes. This research has focused

almost exclusively on nursing contexts, finding marked influences in the way aggression is viewed on the management of aggression. Whittington and Higgins (2002) analysed attitudes held by nurses towards patient aggression and reported views of aggression being positive (i.e., acceptable) and thus tolerated. They argued that adopting a zero tolerance view of aggression would lead to greater use of restraint possibly due to anger on the part of the staff dealing with aggressive patients, conversely potentially increasing the display of aggression. Whittington and Higgins proposed that a tolerant and understanding approach to aggression may in fact lead to a calmer response and more effective strategies to reduce the occurrence.

A recent study conducted in a high secure psychiatric hospital in the UK found staff were more inclined to perceive aggression as due to individual patient characteristics, whereas patients were more likely to believe environmental factors contributed more (Pulsford et al, 2013). This is consistent with previous research conducted in acute psychiatric settings (Duxbury & Whittington, 2005). Others found evidence of staff attributing causes of aggression to mental illness and therefore preferring to intervene with medication (Illkiw-Lavelle & Grenyer, 2003). Conversely patients in the same study felt interpersonal conflict and environmental factors were the main causes. Pulsford et al's study found both staff and patients to support the use of controlling management techniques such as restraint and medication.

Dickens, Piccirillo and Alderman (2013) also examined attitudes held by patients and staff in a forensic mental health service (medium and low secure conditions) and found there to be more consistency in the attitudes held by both groups. Furthermore, both groups agreed with a graded approach, attempting to deescalate before using coercive methods, to management of aggression. It may be that the differences observed in the two forensic studies are attributable to the sample differences. That is staff in high secure settings perhaps face more complex and challenging presentations than those in medium or low conditions. It may be that there is a tendency to attribute violence as the result of mental illness more in high secure settings, as patients in this setting may be more acutely unwell than in lesser secure settings.

Research has evaluated attitudes towards instrumental and reactive forms of aggression. Reeder, Kumar, Hesson-McInnis & Trafimow (2002) noted that type of aggression observed led to judgements about the individual. For example, views of 'provoked aggression' (reactive aggression) were linked to positive views of aggressors whilst aggression seen as 'selfish' (instrumental aggression) was linked to negative views of the person. This highlights the potential impact of an act of aggression upon general views of an individual. The study employed a student sample and it is not clear the extent to which the findings can be transferred to a secure staff sample.

Furthermore the authors noted that the research examined scenarios and individuals often interpret the motives of others with greater intensity when

affected personally by their actions. Thus when considering the application of this work to a forensic setting, it implies that staff may form more negative general opinions of aggressors as they are more likely to be personally affected by the aggression.

Research using staff samples has found different reactions to aggressive individuals. Jansen, Dassen, Burgerhof and Middel (2006) used the Attitudes Towards Aggression Scale (ATAS) and found three specific classes of attitudes among nurses; these were 'harming' reaction, 'normal' reaction and 'functional' reaction. They reported the psychiatric nurses endorsed attitudes suggestive of a clear understanding of aggression (functional reaction) were typically more experienced staff members.

Jansen et al (2006) also found men more likely to endorse items suggestive of the 'normal' reaction (e.g., feeling aggression occurs in the setting and is part of their job), whereas Whittington (2002) reported more experienced nursing staff were more tolerant of aggression and endorsed attitudes supportive of aggression. These pro-aggressive attitudes in staff have been found to affect chosen intervention, with tolerance being linked to calmer, collaborative approaches in nursing staff (Whittington & Higgins, 2002).

When considering the origins to staff attitudes and approaches Brand and Anastasio (2006) argue that attitudes towards aggression will depend on an individual's wider understanding of the causes of human behaviour. For example, if a person believes some people can be inherently 'bad', they are

more likely to favour punishment as opposed to treatment options. Conversely, if a person believes in the role of environmental factors, they may be more likely to endorse prevention efforts. For example, by then trying to support an individual in building their prosocial skills to prevent future aggression.

As well as personal influences over interpretation, Jansen, Middel, Dassen and Reijneveld (2006) stress the impact of the work environment upon attitudes, and advocate consideration of Social Learning Theory (SLT) and modelling in the support of positive attitudes. SLT highlights the role of observations of significant others in the assimilation of beliefs, SLT principles are outlined in Chapter two. This is perhaps of importance given aggression is more commonplace in forensic settings and it may therefore be that staff in forensic settings share specific attitudes towards aggression.

Attempts have been made to apply theory to understand the role of attitudes in those in the environment. Westaby (2005) updated the existing research into attitudes and developed *Behavioural Reasoning Theory*. The theory expands upon models such as the Theory of Planned Behaviour through the addition of 'reasons' as important factors in behaviour. Specifically the theory suggests that reasons help to justify and account for our own behaviour and that of others, ultimately to protect our self worth. Reasons are more context specific than our attitudes and therefore can be both related and unrelated to our beliefs.

Behaviour Reasoning Theory highlights a distinction between global attitudes (e.g., general attitudes) and context specific attitudes (related to a certain situation or event). It may be, for example, that an individual who initially holds attitudes that are unsupportive of aggression within their general life, may alter across specific situations; for example if an individual works in a forensic context, their context specific reasoning will need to examine the reasons for aggression occurring regularly within this context. It could be argued that continuous exposure to aggression and frequent reasoning to explain such behaviour could lead to an eventual change in general attitude about this behaviour, to minimise any psychological dissonance. It may be that such context specific attitudes have dramatic influences over practice.

Attitudes of professionals, whether global or context specific, are likely to have an influence over their interactions with clients and thus this remains a significant area of enquiry (Farkas, 1999; Craig, 2005). Specific research with forensic samples (e.g., prison officers) has tended to focus on examination of general (e.g., global) attitudes rather than those relating to a specific behaviour such as aggression. General attitudes are of importance to the current thesis as how staff perceive prisoners in general may influence the way in which aggression is dealt with and thus whether further aggression is encouraged or prevented.

Staff attitudes towards prisoners

Research examining prison officer general attitudes towards prisoners has found positive attitudes are linked to effective rehabilitation (Jacobs & Olitsky, 2004; Lambert, Hogan & Barton, 2002). Craig (2005) highlights the link between positive attitudes expressed by clinicians and effective community rehabilitation of offenders.

It is claimed that negative attitudes towards prisoners tend to be more commonplace in establishments where the overall focus of the institution is less rehabilitative and more punitive (Kjelsberg, Hilding-Skoglund and Rustad, 2007). Conversely, maintenance of prison order has been found to be greater in settings where staff are perceived as supportive and humane in their approach to prisoners (Dirkzwager and Kruttschnitt, 2012; Molleman & Leeuw, 2012). It would be assumed officers perceived as supportive will hold positive general attitudes towards prisoners.

Studies investigating such attitudes have found sex to be related to attitudes towards prisoners and aggression. Whilst sex may be not classically be defined as an environmental factor, the thesis views staff characteristics as elements of the social environment. This is in keeping with models such as the MMBSS. This is important to examine at attitudes held by staff may be underpinned by sex rather than experience or length of service. Ireland & Quinn (2007) have criticised many studies for failing to account for the potential influence of sex over specific attitudes. The authors highlight the

finding that women tend to have a greater capacity for empathy and this is a significant moderator of attitudes. In addition, when general sex differences are considered, women are typically less accepting of physical aggression than men (Archer, 2004).

Research has found women officers report attitudes more optimistic of change (Kifer, Hemmens & Stohr, 2003). Ireland and Quinn (2007) noted that women officers hold attitudes which reflected a greater understanding of behaviours such as self-harm in prisoners and were less likely to endorse negative myths than men. Their study found no differences in general attitudes towards prisoners. This is highlighted as this suggests it is possible for men to endorse negative views of self harm whilst not holding negative views of prisoners, which is consistent with Westaby's Behaviour Reasoning Theory.

However, other research has failed to find evidence of sex differences on general attitudes (Kjelsberg et al, 2007) or on rehabilitation approaches (Jurik, 1985). However, Paboojian and Teske (1997) cite mixed results regarding the relationship between sex and attitudes. The authors report three studies where no significant relationships were found. Conversely they also report the finding of Crouch & Alpert (1982) where, after six months of prison employment, men became more tough minded and women less so.

Another factor felt to be influential over staff attitudes, is length of service. Evidence indicates that the relationship is curvilinear. Crawley (2004) states

that newly qualified officers are typically more positive and hopeful. However once they enter the daily routine of the establishment this may be altered by the culture of the organisation (attitudes expressed by colleagues). In addition, psychological strain from the pressures of the job may lead to more negative attitudes being held.

It is posited that attitudes may become more positive towards the end of service owing to the reduction of psychological strains and pressures (Regoli, Poole & Schrink, 1979). In contrast, Kjelsberg et al (2007) reported no effect of work experience over attitudes. Instead some researchers have focused upon the level of contact with prisoners whilst on shift, claiming this to impact on attitudes. Farkas (1999) highlights findings where level of contact was noted to increase the degree of punitiveness and unfavourable attitudes towards prisoners.

However others have suggested that age, specifically maturation, is more important than length of service (Paboojan & Teske, 1997; Daffern & Howells, 2002). Craig (2005) found that younger clinicians working with offenders reported rehabilitation as a waste of time compared to older clinicians; with those older than 35 expressing more positive general attitudes towards offenders. Farkas (1999) found older officers to be more supportive of rehabilitation efforts; a finding more salient than race or education.

Paboojian and Teske (1997) reported two studies where age was related to attitudes towards prisoners; finding older officers to be more supportive of

rehabilitation and treatment than younger officers. The authors claimed that the maturation process is more influential than experience in the environment over positive attitudes towards prisoners. Whilst general attitudes (e.g., attitudes towards prisoners) appear to have been explored considerably with prison officers, context specific attitudes (e.g., attitudes towards aggression) have not been extensively researched.

Summary of the forensic social environment

The MMBSS considers attitudes held by staff to be a core component of the social environment, impacting on the choice to aggress. Research suggests pro-aggressive or attitudes accepting of violence are commonplace in forensic settings. These attitudes, held by staff, appear to promote aggression in those housed in forensic settings. Staff in forensic settings are more likely to encounter aggression than those in non-forensic settings and thus they may adopt attitudes accepting of aggression to account for this increased frequency, in line with Behaviour Reasoning Theory (Westaby, 2005).

Research shows that staff understanding as to the function/cause for the aggression can influence their judgement of the aggressor. Negative attitudes towards prisoners or detained patients are found to relate to punitive approaches. This is of relevance as such attitudes and approaches are likely to further enhance a hostile or negative climate in the establishment, further impacting on aggression. Currently, there is limited research examining the

contribution of staff attitudes to individual intent to aggress. Furthermore the social environment represents only one aspect of the forensic environment. The physical structure of the secure setting is also thought to contribute to intent to aggress, research examining the physical setting follows.

5.5   Forensic physical environment

Within both the IMP (Ireland, 2002), and MMBSS (Ireland, 2012), Ireland highlighted specific attributes of the physical environment in prison settings which appear to promote aggression. Such factors include material goods, population density (i.e., high social density, limited spatial density), staff supervision (i.e., predictable) and a lack of stimulation. Ireland argues that each aspect contributes to raise the potential for certain individuals to choose an aggressive strategy to meet their needs.

Daffern and Howells (2002) identified further conditions posited to increase violence on psychiatric wards. In addition to those already outlined by Ireland, they suggest factors such as presentation and maintenance of the ward, irritating noise and presence of weapons may be important. However, Daffern and Howells note the limited empirical evidence confirming the influence of these characteristics in psychiatric settings.

Flannery (2005) attempted to address the limited evidence and examine if there were common single predictors of violence in psychiatric settings. Six published peer reviewed studies were examined, comprising 2086

aggressive incidents from Australia, UK and USA. No one single factor was identified but common factors included patient variables, staff approach and noise. With regards to physical conditions some acts of violence were precipitated by excessive sensory stimulation, appearing to lead some patients with psychosis to act aggressively. Thus it seems there is a role for certain physical factors combined with other individual variables such as mental illness.

One such factor is crowding. Historically it was assumed that overcrowding contributed to institutional misconduct. Farrington and Nuttall (1980) sought to test this assumption. The study examined violence in English prisons occurring in the 1960's and asserted that focus on overcrowding was simplifying the relationship between the environment and prison misconduct such as aggression. They observed greater rates of aggression per prisoner in the smaller prisons with fewer prisoners although accepted this is likely to be due to similar acts going unobserved in larger establishments. They advocated examination of the prison classification to better understand the factors facilitating aggression.

At the time of this study prisons were classified as 'local' or 'training' prisons. The former housed prisoners with shorter sentences and the latter housing prisoners needing greater input on longer sentences. Whilst this could be judged an outdated study in terms of the sample it does draw attention to the need to consider interactions between characteristics of the environment rather than focusing on one variable such as crowding.

Despite Farrington and Nuttall's seminal study, crowding has remained an area of interest within research. More recent studies have found mixed support for the role of overcrowding (Welsh, Bader & Evans, 2013). In a recent systematic review across psychiatric settings, Cornaggia, Beghi, Pavone and Barale (2011) found a relationship between overcrowding and increased aggression. Others reported crowding to be only a weak predictor of violence and misconduct (Franklin, Franklin and Pratt, 2006).

Franklin et al's meta analysis of 16 studies argued that it was poor management in the institution which correlated to violence rather than population density. Crowding was reportedly more associated with violence in younger populations. This particular observation may be due to younger inmates feeling greater social pressure to act violently than their adult counterparts. Franklin et al claimed the overall study supported assertions made by the *administrative control model of inmate misbehaviour* where violence stemmed from poor staff training and ineffective prison security rather than crowding per se.

Research in hospital settings also finds mixed results in terms of crowding. Daffern, Mayer and Martin (2004) examined 756 incidents of violence in two psychiatric secure facilities for mentally ill offenders. In terms of environmental contributors they argued that inability to access privacy increased rates of aggression. Indeed restrictions on privacy, arising as a result of crowding, may be the mechanism which precipitates aggression.

Others have pointed to lack of privacy as a key factor in prison aggression. Bierie (2012) examined the impact of physical conditions on levels of violence. The study focused specifically on aspects such as noise, clutter, cleanliness and privacy. Bierie reported significantly lower levels of violence in prisons with "*better physical environments*". Furthermore, he controlled for the influence of characteristics of staff and claimed the association remained, thus perhaps undermining the role of the social environment.

Bierie also noted the results were independent of other variables judged to impact on the choice to aggress, such as staff-prisoner ratio, overcrowding and security level. This is a significant finding and highlights the need to ensure that models to explain aggression in the forensic setting pay equal attention to physical environment. That is, models of general aggression which do not specifically outline these key variables in explaining the intent to aggress are neglecting significant factors.

More recent studies have sought to advance understanding by exploring *perceptions* of the environment in addition to observable attributes. Allison and Ireland (2010) also found support for the strong association between aspects of the physical environment and high levels of aggression. Specifically they observed an association between physical environment factors known to relate to aggression and fear of aggression. The study gathered the views of 100 prison officers and 261 prisoners (adult men) and noted positive associations between aggression and lack of material goods, limited activities, and predictable staff supervision. The results indicated that

victims of aggression were more likely to perceive more environmental variables as relevant to aggression. Allison and Ireland propose this is due to the victims experiencing greater deprivation and therefore greater awareness of negative environmental characteristics.

The importance of investigating perceptions as well as observable factors is underscored by a recent study. Day, Casey, Vess and Huisy (2012) also compared the perceptions of prisoners and staff in two Australian prisons. They purposefully selected a mainstream and a therapeutic prison. Contrary to their hypotheses no differences emerged in the prisoner perceptions of the social and physical climate (e.g., culture) between the two prisons. Whilst there was a trend for those in the therapeutic establishment to feel safer and more supported, this was not statistically significant. This differed in the staff sample. Staff in the therapeutic prison reported significantly more positive impressions of the social climate than staff in the mainstream prison.

Day et al. call attention to the fact that the culture and climate within an institution can vary greatly between different sections of the institution. There may have been greater variance within the prisoner sample confounding the results between prisons. Nonetheless, this study underlines the need to assess both the social and physical climate when investigating factors influencing aggression in forensic settings. As it is evident from this study observable physical characteristics judged therapeutic by outsiders may not be experienced by prisoners as positive.

5.6   Concluding comments

Aggression cannot be understood purely in terms of individual differences, particularly when this occurs in forensic settings (Flannery, 2005; Ireland, 2002; Mooney & Daffern, 2011). Research has clearly shown that aspects of the physical and social environment can enhance and alter individual differences known to promote the choice to aggress (Bierie, 2012; Daffern, Mayer & Martin, 2004; Paterline & Petersen, 1999; South & Wood, 2006; Van de Helm et al, 2012).   Furthermore, research shows that staff attitudes, intervention approach and experience can influence the use of aggression (Ireland, 2002; Jansen et al, 2006; Whittington & Higgins, 2002)

Forensic models of aggression such as the MMBSS incorporate a range of factors in the attempt to explain the choice to aggress. However, the extent to which these factors influence individual intent to aggress is not known. Furthermore, as was noted in Chapter two and three, research has not sought to identify the conditions in which aggression is inhibited. It will be important to determine the conditions of the physical and social environment which lead some to choose *not* to aggress.

Chapter 6

ADDRESSING THE RESEARCH PROBLEM: INTENT TO AGGRESS IN FORENSIC SETTINGS

6.1   Structure of the chapter

This chapter will highlight what is known about the intent to aggress in forensic settings from the literature review. This will then highlight the gaps in understanding which this thesis aims to address. The aims and predictions are based on existing knowledge and the areas identified in the preceding Chapters which require further examination.

6.2   Aggression in forensic settings

Chapter two highlighted what is known about general aggression and the important distinctions needed according to nature such as direct and indirect (Bandura, 1978; Bjorkqvist, 2001; Warren et al, 2011) and aggression motivation (Anderson & Bushman, 2002; Crick & Dodge, 1996). What is not known is how valuable these distinctions are in the forensic setting.

Some evidence suggests indirect aggression occurs more frequently than direct aggression in prison settings and is therefore important to examine (Ireland & Ireland, 2008). Regarding aggression motivation some studies have claimed the distinction between reactive and proactive aggression is

useful. It has been argued that aggressors in clinical samples can be differentiated according to motivation (Cima et al, 2013; Felthous et al, 2009). These studies are not, however, without criticism. Thus it is important to further examine the distinctions made in the general aggression literature in terms of form and motivation to ascertain the generalizability and value of these concepts in the forensic setting.

6.3   Individual differences

Models of general aggression all emphasise the significance of individual differences, attending to the role of cognition and personality (Anderson & Carnagey, 2002; Bandura, 1978; Crick & Dodge, 1994; Huesmann, 1998; Lemerise & Arsenio, 2000). Forensic models such as the MMBSS (Ireland, 2012) and Bio-Psycho-Social model (Steinert & Whittington, 2013) also attend to these factors. However, to date the relative contribution of these factors in the intent to aggress in forensic settings has not been tested.

There is a wealth of research examining the role of personality in the choice to aggress. Research in general samples finds associations between high neuroticism, low agreeableness and low conscientiousness (Caprara et al, 1994; Grumm & Collani, 2009; Jones, Miller & Lynam, 2011; Miller & Lynam, 2001; Miller, Zeichner & Wilson, 2012; Siebert et al, 2010). The studies conducted from forensic settings are fewer, typically with smaller samples, but appear consistent with general populations; finding lower agreeableness and higher neuroticism in aggressors (Lee & Egan, 2013; Skeem et al, 2005;

Trninic et al, 2008; Zajenkowska et al, 2013). What is not known is the relative importance of personality compared to other variables in the choice to aggress. Some have argued that personality is of less importance than cognitions (Hosie et al, 2014). Thus it will be important to examine both cognitions and personality together.

Regarding cognitions, research with forensic samples has found support for the importance of instrumental, but not expressive, beliefs in aggression (Archer & Haigh, 1997a; Archer & Graham-Kevan, 2003; Holland, Ireland & Muncer, 2009). Theoretical approaches contend that emotion determines the influence of cognition (Huesmann, 1998; Ireland, 2005b; Lemerise & Arsenio, 2000). Research examining both cognition and emotion in aggression in forensic settings is limited although does support the interaction between the two (Bartlett & Anderson, 2012; Hosie et al, 2014). Therefore a significant area of future enquiry will be to examine both emotion and cognition to determine the relative importance in the choice to aggress.

6.4   The influence of the forensic environment

Research shows situational factors cannot be ignored when seeking to understand the factors leading to aggression in the forensic setting (Cooke & Johnstone, 2010; Mooney & Daffern, 2011). Attention has been focused on physical and social attributes of the environment (Ireland, 2002, 2012), Chapter five outlines examples of both aspects. The evidence base indicates that attitudes held by staff can influence the social climate and overall

approach to those housed in forensic settings (Craig, 2005; Ireland, 2002; Whittington & Higgins, 2002).

Relationships have also been observed between intervention style or orientation of officers with both general negative attitudes towards prisoners (Jacobs & Olitsky, 2004) and attitudes towards aggression (Daffern & Howells, 2002). The approach used by staff can facilitate or encourage aggression, with more supportive organisational structures reportedly having lower rates of aggression (Van de Hem et al, 2012).

There is mixed support for the impact of certain physical attributes of forensic settings, with some claiming overcrowding to play a pivotal role in aggression (Cornaggia et al, 2011) whilst others have found no or only a weak relationship (Farrington & Nuttall, 1980; Franklin et al, 2006). It seems there may be more to the relationship than social density and aspects such as privacy and noise (Daffern et al, 2004; Flannery, 2005). To date, the majority of research examining the physical structure of prisons has tended to examine the observable attributes rather than perceptions of prisoners. The research available addressing this has shown disparity between actual and perceived social and physical climate. Therefore another critical area to examine is the perceptions of the forensic setting by those housed and working within it.

What is less clear from the literature is the relative contribution of the physical and social environment in the choice to aggress. Furthermore there is mixed

evidence as to importance of individual characteristics of staff over attitudes. Thus this will benefit from further exploration.

6.5   Aims

The core aim of the thesis is to determine the individual and environmental factors relating to the choice to aggress in forensic settings, with the aim of developing a model to explain the intent to aggress in forensic settings. The MMBSS (Ireland, 2012) will be used as a guiding framework to select variables to further examine as this model is grounded in both general and forensic aggression to explain the routes to aggression in forensic settings.

A second aim is to understand the factors in the decision *not* to aggress in the forensic setting. The focus on individual and environmental factors will be used with the aim of identifying significant differences in those who choose not to aggress and report not being subject to victimisation. Specific aims and associated predictions are presented next.

Aim 1: To examine individual differences in aggressors in prison; specifically measuring the relationship between personality traits and beliefs about aggression in the choice to aggress in the forensic setting.

Predictions

1a: Perpetrators will demonstrate higher instrumental beliefs about aggression than all other categories (e.g., Archer & Haigh, 1997a; Archer & Graham-Kevan, 2003; Holland, Ireland & Muncer, 2009; Palmer & Thakordas, 2005), with this also in keeping with information processing theory (Anderson & Bushman, 2002; Huesmann, 1998);

1b: Those reporting perpetration will report lower scores on agreeableness, conscientiousness and openness to experience than the remaining sample (e.g., Caprara et al, 1994; Eysenck, 1992; Gleason et al, 2004; Jensen-Campbell et al, 2007; Jones, Miller & Lynam, 2011);

1c: Those reporting perpetration will report higher scores on neuroticism and higher expressive beliefs than the remaining sample (e.g., Bettencourt et al, 2006; Egan, 2009; Jones, Miller & Lynam, 2011; Miller & Lynam, 2006)

Aim 2: To investigate the role of the physical and social environment by exploring the attitudes towards prisoners and aggression in staff (staff attitudes represent an influential aspect of the social environment).

Predictions

2a: Women officers will report higher positive general attitudes towards prisoners, more non-aggressive attitudes and will select more appropriate

aggression motivation and more rehabilitative intervention approaches, based on previous findings (e.g., Archer, 2004; Ireland & Quinn, 2007; Kifer et al, 2003)

2b: Older officers will report more positive general attitudes towards prisoners and more rehabilitation approaches (e.g., Craig, 2005; Farkas, 1999; Jansen et al, 2006; Paboojan & Teske, 1997).

2c: More experienced officers will report greater positive general attitudes towards prisoners and greater context specific attitudes than less experienced officers (e.g., Crawley, 2004; Jansen et al, 2006; Gendreau & Goggin, 99; Whittington, 2002).

2d: Increased positive attitudes towards prisoners and increased non-aggressive attitudes will predict identification of rehabilitation approaches to aggression. Increased negative attitudes towards prisoners and increased pro-aggressive attitudes will predict identification of punitive approaches to aggression (e.g., Brand & Anastasio, 2006; Craig, 2005; Jacobs & Olitsky, 2004; Kjelsberg et al, 2007; Lambert et al, 2002).

Aim 3: To investigate both individual characteristics and environment factors influencing the intent to aggress in a sample of prisoners and staff. To also examine the role of emotion, specifically fear, and perceptions of the social and physical environment.

Predictions

3a: Aggressors will report higher aggressive beliefs, higher neuroticism, lower agreeableness, openness and conscientiousness scores than non-aggressors (e.g., Caprara et al, 1994; Egan & Lewis, 2011; Miller & Lynam, 2001; Miller, Zeichner & Wilson, 2012; Siebert et al, 2010).

3b: Victims will report higher fear, higher negative perceptions of the environment and higher expectations of aggression in the setting than aggressors (e.g., Alison & Ireland, 2012; Bierie, 2012; Ireland, 2005b; Ireland, 2012).

3c: The not involved group will report higher positive environment perceptions and higher prosocial beliefs than aggressors and victims (e.g., Bierie, 2012; Cornaggia et al, 2011; Dirkzwager & Kruttschnitt, 2012; Molleman & Leeuw, 2012; Van de Helm, Stams, van Genabeek & van de Laan, 2012).

3d: Those not involved will report higher agreeableness, openness and conscientiousness than aggressors (in line with inhibiting factors of I^3 theory, Slotter & Finkel, 2011).

3e: Sex differences will be observed in staff beliefs towards prisoner aggression; men will report higher aggressive beliefs, based on previous findings (e.g., Archer, 2004; Ireland & Quinn, 2007; Kifer et al, 2003)

3f: Prosocial beliefs in staff will associate positively with positive impressions of the environment whilst aggressive beliefs in staff will associate positively with negative impressions (e.g., Brand & Anastasio, 2006; Gendreau & Goggin, 1999; Kjelsberg et al, 2007).

6.6 How the PhD will address these aims

The PhD comprises three studies to address the three core aims of the thesis. The first study investigates individual differences in adult male category B prisoners, with specific focus on personality and beliefs. The study aims to test the generalizability of the general aggression literature with regard to personality and ascertain the contribution of cognitions to reported engagement in aggression.

The second study builds on understanding the factors influencing to the choice to aggress through examination of the social and physical environment. The focus of the second study is examination of attitudes of staff in two UK Young Offender Institutions. This study measures general attitudes towards prisoners and attitudes towards aggression. The core aim of the study is to identify additional environmental factors influencing rates of aggression.

The final study then combines both individual characteristics and environmental factors in one study with both prisoners *and* staff from one establishment housing category B adult men. The aim of study three is

determine the relative contribution of the individual and environmental variables in the reported use of aggression in the prisoner sample. Building on the second study, the study will analyse the differences between the staff and prisoners perceptions of the environment; considering the role of these perceptions in the choice to aggress. A final aim is to develop a model to explain the choice to aggress in forensic settings.

Chapter 7

STUDY 1: INDIVIDUAL DIFFERENCES IN AGGRESSORS IN PRISON

7.1 Structure of the chapter

The aim of this study[2] is to explore the relationship between individual characteristics and self-reported engagement in aggression. Specific variables of interest to the current study are personality traits and beliefs about aggression. The literature conducted with general samples suggests aggressive cognitions underlie intent to aggress. Thus the current study aimed to examine this relationship in secure settings, comparing aggressors to those who report lesser involvement in aggression. The general aggression literature also suggests a link between personality traits and aggression; with associations found with lower levels of agreeableness and conscientiousness and higher levels of neuroticism. Study one aimed to examine this relationship with a forensic sample. Figure 7.1 outlines presents the structure of the analysis used in this Chapter .

---

[2] Study one has been published and key results presented here are contained in the publication; Turner, P & Ireland, J.L (2010) Do personality characteristics and beliefs about aggression predict intra-group aggression in prison settings? *Aggressive Behavior*, 36(4), 261-270. A copy of the publication is contained in Appendix six.

Structure (section)	Aims
<u>Associations among variables (7.6)</u> Extent of engagement in aggression.	*To summarise extent of aggression reported across different forms of aggression.*
Categories involved in aggression and victimisation. <u>Beliefs towards aggression</u>. <u>Personality and aggression</u>.	*To further examine the key individual differences with a focus on beliefs and personality across the four categories involved in aggression found in secure settings.*
Prediction of category membership from beliefs and personality.	*To determine the influence of personality and beliefs in predicting category membership.*
Examination of subtypes of aggression – direct and indirect forms of aggression.	*To investigate associations between aggression, personality and beliefs with specific forms of aggression (direct and indirect).*
Relationship between direct aggression, personality and beliefs. Relationship between indirect aggression, personality and beliefs.	*To examine whether the influence of personality and beliefs remains when examining direct or indirect forms of aggression, regardless of category membership.*
<u>Summary of results</u> (7.8) <u>Discussion</u> (7.9)	

Figure 7.1: Structure and aims of Chapter seven

7.2 Participants

Two hundred and thirteen male prisoners from a Category B prison participated. A Category B prison is defined as suitable for those individuals who do not require the very highest conditions of security, but present as a medium to high risk to the public. A total of 550 questionnaires were distributed amongst six wings of the prison, representing a 39% response rate. The mean age of the study was 30 years old (age range 21-60 years, SD 8.2).

Sixty three percent were of White ethnic origin. Thirteen percent were Black or Black British, 12 percent were of mixed ethnic origin, 11 percent were Asian or Asian British and one percent were Chinese. The average sentence length was 47.4 months (SD 53.8) whilst the average total time spent in secure institutions was 54.8 months (range 0 to 240 months: SD 51.2).

In terms of self reported index offence, 11 participants did not respond. Fifty percent were convicted of violent offences, 24 percent of an acquisitive offence, 12 percent of other indictable offences (e.g., driving offences), 11 percent of drug related offences and three percent of sexual offences. In terms of current sentence, twenty three percent indicated they were on remand and four percent were serving life sentences. Table 7.1 presents the descriptive statistics based on offence type.

Table 7.1: Descriptive statistics for the sample; n=200 (based on post data screening sample)

	n	Age (SD)	Length of Current sentence (SD)	Average total time in prison (SD)
Violent offences	95	30.1 (8.1)	61.3 (61.7)	51.8 (42.5)
Sexual offences	4	39.5 (10.8)	20.0 (22.6)	26.0 (27.3)
Acquisitive offences	46	29.4 (6.5)	28.6 (34.5)	60.7 (46.1)
Drug offences	22	31.9 (8.3)	59.7 (62.5)	46.8 (59.3)
Other	22	35. 1 (8.2)	26.4 (26.9)	73.2 (81.2)
Missing	11	32.0 (11.2)	23.0 (1.7)	29.8 (39.5)
Total	200	39.9 (8.2)	47.4 (53.8)	54.8 (51.2)

7.3   Materials

All participants completed the following measures, all measures are contained in appendix one;

<u>Direct and Indirect Prisoner behaviour Checklist -Scaled (DIPC-SCALED; Ireland, & Ireland, 2008)</u> was used to measure the extent and frequency of aggressive behaviours over a period of one month. The questionnaire contains 111 items relating to discrete forms of direct and indirect aggressive behaviours. Self-reported victimization is divided into direct physical, psychological/verbal, theft related, sex related and indirect types of aggressive behaviors. The DIPC-SCALED-revised is an alternative version of the DIPC-R. This version allows for a 'scaled' response as opposed to a dichotomous (presence/absence) response.   Participants are asked to indicate on a scale of 0 - 4 how frequently a behaviour has happened to

them/they have engaged in, in the past month (i.e., 0 = never, 1 = rarely, 2 = sometimes, 3 = often, 4 = always). Examples of items include, "I was called names about my race or color", "I have been kicked by another prisoner", "I have been deliberately ignored" and "I have been pushed by another prisoner". Self reported perpetration is also divided into the same categories of aggressive acts, with example items including "I have hit or kicked another prisoner", "I have called another prisoner names about their offence or charge", "I have intimidated another prisoner", "I have spread rumors about another prisoner". The DIPC has been validated on men and women adult populations, young offenders and also psychiatric samples (Ireland, 2002).

International Personality Item Pool (IPIP; Goldberg, 1999) was used to assess the individual personality characteristics of respondents (positive and negative traits). It is comprised of 50 short sentences describing various behaviours associated with each of the Big Five dimensions (i.e.,, Extraversion, Conscientiousness, Agreeableness, Emotional Stability, and Intellect). For example "I am the life of the party" and "I talk to lots of people at parties" are extraversion items. Each Big Five scale contains 10 items paired with a 5-point Likert response scale (from 1=strongly disagree to 5=strongly agree).

The revised EXPAGG (Campbell, Muncer, McManus & Woodhouse, 1999) The 16 item revised version was employed here. It assesses instrumental (e.g., "I feel that physical aggression is necessary to get through to some people") and expressive (e.g., "I believe that my aggression comes from losing my self-control") beliefs about aggression. Items are rated on a 5 point

scale. The EXPAGG has been validated on adult prison samples (Archer, Ireland & Power, 2007). It is important to note that whilst this was originally designed to measure social representations of aggression it is used here to examine individual beliefs about aggression, in accordance with more recent studies.

7.4   Procedure

Ethical approval was obtained by the School of Psychology at the University of Central Lancashire and via the Governor of the establishment. The sample included all prisoners based on six randomly chosen prison wings throughout the establishment at the time of the study. All prisoners on each wing were invited to participate and provided with a coversheet indicating the purpose of the study in order to obtain informed consent. Written consent was not acquired as this was considered a threat to participant anonymity and thus consent was determined by the return of the completed measure. Prisoners were also provided with information concerning what they should do if the measures caused distress. This was in accordance with local prison policy.

Participants completed the questionnaire on their own, in their cells. Questionnaires were distributed during an extended lock-up period (when cell doors were locked) during a training day when prisoners were locked in their cells for the morning and afternoon periods. Questionnaires were placed under cell doors and handed in, completed or uncompleted, in sealed unmarked envelopes during unlock (i.e., when prisoners were accessing the

wing areas). These were provided to the researcher and not opened by officers. It was stressed that participant names or prison numbers were not required, and that the questionnaire only required basic descriptive information. Prisoners were informed that if they experienced any difficulties in completing the measures (including any literacy difficulties), that they could ask for assistance. No prisoners requested this. All prisoners were provided with a debrief sheet.

7.5 Data screening

Data screening was used as a precursor to the main analysis. Missing values were analysed. The data was examined to determine whether missing values highlighted in the total scores were 'true' missing values (i.e., more than 25% of the measure not completed) or could be replaced to improve the dataset. True missing values were assigned '0' in the dummy variable and possible missing values were '1'. Analysis was completed to determine if the values were missing at random. T-tests and Chi Square tests were chosen to ensure the missing values were not related to other variables. T-tests were used to examine whether missing values were significantly associated with age and Chi Squared tests were used to examine if associations existed with ethnicity.

Results indicated no significant differences were present in the dataset for the EXPAGG (t=-1.12, p>0.97; χ^2=2.01, p>.73) or IPIP scales of conscientiousness (t=1.78, p>0.14; χ^2=2.73, p>.61) and neuroticism (t=.16,

p>0.92; χ^2=7.83, p>.09). However the analysis revealed significant associations with ethnicity on the IPIP subscales of extraversion (χ^2=9.45, p>.05) and agreeableness (χ^2=28.09, p>.00). Analysis also revealed significant associations with openness and age (t=2.21, p>.002). Therefore the missing values on the three IPIP subscales were not missing at random and could not be replaced.

Bivariate correlations were conducted before and after the missing value replacements, examining the correlations across all subscales of the TIPI, DIPC and EXPAGG. No significant differences were observed in the correlations pre and post missing value replacements.

Univariate outliers were identified using box-plots to examine the spread of data for the average subscale scores on the EXPAGG and IPIP. This identified a number of outliers which were noted whilst the multivariate outliers were determined. Thirteen multivariate outliers were identified using regression analysis and examining the Mahalanobis distance (where cases were considered extreme on more than one item with a score of more than 25, therefore negatively impacting on the dataset). These cases were subsequently excluded from data analysis to aid distribution spread. Removal of the outliers greatly reduced Kurtosis (1.49) and Skewness (-0.88). Resulting distribution scores were reduced to acceptable levels when standard errors were accounted for (Kurtosis = .13; Skewness = .01). The remaining univariate outliers were managed by making their impact on normality less severe by using the corresponding most 'extreme' score and

adding or subtracting '1'. The final sample therefore comprised 200 participants.

Reliability of the DIPC-Scaled, EXPAGG and IPIP was assessed using Cronbach's alpha. Table7.2 presents the reliability levels for all subscales of the DIPC-SCALED, EXPAGG and IPIP measures.

Table 7.2: Overall means and reliability table for DIPC-SCALED, EXPAGG and IPIP

		n	Number of items	Cronbach's Alpha	Mean (SD)
DIPC-SCALED Subscales	**Perpetration***	198	43	.97	9.42 (16.8)
	Physical perpetration	195	8	.88	1.89 (3.7)
	Psychological/Verbal	195	8	.89	2.38 (4.3)
	Sexual perpetration	196	2	.75	0.08 (0.7)
	Theft related	197	12	.95	1.18 (4.4)
	Indirect perpetration	193	13	.89	4.15 (5.8)
	Victimization	199	47	.94	12.7 (18.7)
	Physical Victim.	189	8	.86	2.14 (3.9)
	Psychological/Verbal	191	10	.85	2.65 (4.6)
	Sexual Victimisation	194	2	.64	0.10 (0.6)
	Theft related	193	13	.84	2.07 (4.3)
	Indirect victimization	183	14	.89	6.14 (7.3)
EXPAGG subscale	Instrumental aggression	179	8	.79	27.4 (6.7)
	Expressive aggression	180	8	.51	- **
IPIP subscales	Extraversion	165	10	.82	30.8 (7.4)
	Agreeableness	175	10	.76	36.1 (6.3)
	Conscientiousness	184	10	.69	35.9 (5.8)
	Neuroticism	184	10	.80	30.4 (5.4)
	Openness	173	10	.73	34.8 (6.1)

* Overall range: Victimization: 152 (minimum 0: maximum 152: possible range = 220); Perpetration: 162 (minimum 0: maximum 162: possible range = 224).
** Not reported due to low alpha and therefore poor reliability.

As is evident from Table 7.2, the DIPC-SCALED achieved good reliability across each subscale. The reliability was reduced for the EXPAGG

expressive subscales. It is important to note that there were no negative item to total correlations in the expressive subscale, so individual items cannot explain the low alpha. As a result of this the expressive scale from the EXPAGG was not used for analysis: it was clearly an unacceptably low alpha. It is recommended that coefficients of 0.8 or above are appropriate for research (Howitt & Cramer, 2000).

Table 7.3 presenting the correlations across all measures to show the associations between concepts measured.

Table 7.3: Correlations across DIPC-SCALED, EXPAGG and IPIP

Subscale****	P: r (n)	V: r (n)	I: r (n)	E: r (n)	A: r (n)	C: r (n)	N: r (n)	O: r (n)
Perpetration (P)	-	.53*** (197)	.30*** (178)	.03 (164)	-.28*** (174)	-.22** (164)	-.13 (183)	-.05 (172)
Victimization (V)		-	-.03 (178)	-.10 (164)	.04 (174)	-.01 (164)	-.24*** (183)	.07 (172)
Instrumental (I)			-	.04 (158)	.21** (175)	-.27*** (159)	-.26*** (177)	-.02 (166)
Extraversion (E)				-	.38*** (158)	.26*** (153)	.35*** (165)	.37*** (158)
Agreeableness (A)					-	.50*** (158)	.21** (175)	.44*** (166)
Conscientiousness (C)						-	.33*** (165)	.52*** (159)
Neuroticism (N)							-	.11 (173)
Openness (O)								-

* $p < .05$; ** $p < .01$; *** $p < .0001$

**** The Perpetration and Victimisation subscales are calculated from the DIPC-Scaled; 'Instrumental' is a subscale of the EXPAGG and the remaining five subscales are the IPIP scales.

As can be seen in Table 7.3 significant inter-correlations were observed between the IPIP subscales and between the perpetration and victimisation.

7.6   Associations among variables

The following hypotheses were indicated in Chapter six;

1a: Perpetrators will demonstrate higher instrumental beliefs about aggression than all other categories;

1b: Those reporting perpetration will report lower scores on agreeableness, conscientiousness and openness to experience than the remaining sample;

1c: Those reporting perpetration will report higher scores on neuroticism and higher expressive beliefs than the remaining sample.

Self reported engagement in aggression

In order to examine the hypotheses analysis was first undertaken as to the extent of involvement in aggression. Overall, 74 percent of the sample reported at least one item indicative of perpetration of aggression in the past month. Indirect perpetration was most frequently reported; with 70 percent of the sample reporting this compared to 49 percent endorsing direct perpetration items. Eighty-seven percent of the sample reported at least one item suggesting they had been victimized in the past month. Indirect forms of victimization were reported more frequently; 81 percent compared to 60 percent reporting direct victimization.   With regards to frequency of

behaviour, the mean scores overall and across each type of aggression are demonstrated in Table 7.2.

Categories involved in aggression and/or victimization

The current study used the data from the DIPC-Scaled and median split analysis to classify membership of one of the categories of those engaged in aggression. Ireland and Ireland (2008) compared median split analysis and the traditional dichotomous classification method of determining membership of the group aggression categories and found that each method was equally valid and produced comparable results across individual difference analyses. The study opted for the median split method as this offered larger and more statistically robust categories by which to compare (Tabachnick & Fidell, 2007).

This allowed the sample to be separated into four groups. Those scoring above the median on perpetration items were coded as 'above median perpetrators', those scoring above the median on victimization items as 'above median victims', those above the median on perpetration and victimization as 'mutual perpetrator/victim'. Those reporting either no perpetration or victimization or whose frequency of behaviours was either at or below the median were classified as 'low frequency-casual involvement'. This followed the classification system used in Ireland and Ireland (2008). This approach resulted in 13% (n = 26) of the sample classified as above median perpetrators; 10.5% (n = 21) above median victims; 38.5% (n = 77)

above median perpetrator-victims; 38% (n = 76) low frequency/causal involvement.

Beliefs towards aggression (Hypothesis 1a)

Table 7.2, presented on page 142 outlines the mean total EXPAGG scores overall with regards to instrumental beliefs about aggression, Table 7.4 presents the EXPAGG subscales according to category of aggressor.

Table 7.4: EXPAGG mean scores according to aggressor category

	Expressive beliefs			Instrumental beliefs		
	n	Mean	SD	n	Mean	SD
Above median perpetrator	22	26.6	5.9	22	30.9	6.1
Above median Victim	16	28.3	4.6	13	25.3	8.0
Mutual perpetrator-victim	65	26.9	5.5	66	28.9	6.9
Low freq. involvement	64	26.1	4.3	64	27.8	6.8

The above median perpetrator group had the highest mean instrumental belief score whilst the above median victim group had the highest mean expressive belief score. Exploratory analysis using t tests revealed statistically significant differences between the two types of beliefs held by each group. Only the victim group reported higher expressive beliefs than instrumental; all other groups reported higher instrumental than expressive beliefs (p<.001).

Univariate ANOVA was completed to measure if those engaged in aggression reported higher instrumental beliefs towards aggression scores

than other categories (victims or not involved). The analysis found there to be a significant difference: $F_{(3, 175)} = 3.00$, $p < 0.03$. The largest difference ($p < .04$) was between the above median perpetrator and above median perpetrator/victims ($p < .04$), with both categories presenting with higher scores that above median victims. This shows that the perpetrator groups reported higher instrumental beliefs than victims.

Personality and aggression (Hypothesis 1b and 1c)

Examination of the average reported IPIP scores was completed to assess the extent to which the categories reported differing degrees of personality characteristics compared to each other. Table 7.2 presents the overall self reported IPIP scores, with Table 7.5 presenting this across categories of involvement in aggression.

Table 7.5: Self reported IPIP scores across aggression categories

	Extraversion		Agreeableness		Conscientiousness		Neuroticism		Openness	
	n	M (SD)	n	M (SD)	n	M (SD)	n	M (SD)	n	M (SD)
Above median perpetrator	24	32.0 (5.8)	22	33.6 (6.4)	24	35.3 (5.9)	24	32.9 (6.2)	24	33.9 (5.6)
Above median Victim	19	27.7 (7.3)	19	36.9 (7.1)	20	38.2 (6.5)	20	28.4 (8.8)	19	37.2 (4.7)
Mutual perpetrator-victim	63	30.2 (7.8)	67	36.4 (5.9)	71	34.5 (5.8)	71	28.9 (7.2)	65	34.9 (6.6)
Low frequency / casual involvement	59	32.0 (7.3)	67	36.5 (6.4)	69	36.8 (5.3)	69	31.7 (7.2)	65	34.4 (5.9)

A MANOVA was completed to measure the extent to which some categories reported personality traits more than others. There was no multivariate effect $(F_{(15, 128)} = .09ns$, although planned comparison tests indicated a trend for perpetrators to present with higher levels of extraversion than victims $(p < .08)$, and to present with higher levels of neuroticism than the low-frequency/casual involvement group $(p < .06)$. As there was no multivariate effect observed the results will need to be interpreted with caution, as they are unlikely to generalise. This suggested there were no differences on reported personality traits between the categories involved in aggression.

Prediction of category membership from beliefs and personality

The hypotheses predicted differences between the groups on beliefs and personality. Analysis was undertaken to determine whether the individual characteristics measured could predict membership to each aggression category. Four binary logistic regressions were completed. This analysis is more in keeping with previous approaches, and allows each category to be compared to the remaining sample mean. It also controls for the markedly increased sample size for the perpetrator-victim category which would dominate any effect if a multinomial regression was used. Multinomial would not allow for an assessment of how each *individual* category compared to the *overall* mean which is the intention here based on previous studies, and the related predictions noted here.

The binary variable represented each individual group category, with the continuous predictors representing the EXPAGG subscale (instrumental), and the five IPIP personality variables. Table 7.6 presents the regression findings and individual model statistics.

Table 7.6: Summary of logistic regressions predicting category membership (n=126, missing = 74)

	Above median perpetrator	Above median victim	Perpetrator-Victim	Low frequency involvement
	B (SE)	B (SE)	B (SE)	B (SE)
Extraversion	.05 (.04)	-.07 (.04)	-.05 (.03)	.05 (.03)
Agreeableness	-.12 (.04)**	-.05 (.06)	.04 (.04)	.01 (.04)
Conscientiousness	.02 (.06)	.08 (.07)	-.05 (.04)	.05 (.04)
Neuroticism	.09 (.04)*	-.05 (.04)	-.06 (.02)*	-.001 (.03)
Openness	-.01 (.05)	.12 (.08)	.05 (.04)	-.05 (.04)
Instrumental aggression	.06 (.05)	-.10 (.05)*	.001 (.02)	-.009 (.03)
Residual X^2	4.28	9.63	5.93	6.56
(df, p)	*(df = 4, p < .36)*	*(df = 5, p < .08)*	*(df = 5, p < .31)*	*(df = 6, p < .36)*
R	-.16	-.18	-.14	-
Exp (B)	.92	.90	.94	

* p < .05; ** p < .01; *** p < .0001

The regressions demonstrated that membership of the above median perpetrator group was predicted by reduced levels of agreeableness and increased levels of neuroticism. Pure victims were predicted by decreased levels of instrumental beliefs, with mutual perpetrator/victims by decreased

levels of neuroticism. There were no predictors for the low-frequency/causal involvement categories. This therefore showed that the individual characteristics examined, beliefs and personality, could predict membership of the perpetrator and victim categories. Beliefs and personality traits were not shown to predict those reporting no involvement in either aggression or victimisation.

Examination of subtypes of aggression: Direct and indirect forms of aggression

The measure of aggression, the DIPC-Scaled, measures a range of aggressive behaviours known to occur in secure settings. The DIPC-Scaled can be divided into specific subscales; indirect and a direct aggression subscale comprising with the latter consisting of; physical, psychological, sexual and theft-related aggression. The preceding analysis was based on total perpetration and victimisation scores to categorise into groups involved in aggression. It may be argued that totalling the scores and including *all* behaviours is not a measure of 'pure' forms of aggression. Furthermore capturing all the items in the DIPC-Scaled would suggest aggression is a homogenous concept.

Thus secondary analysis was performed focusing on those behaviours classified as '*direct aggression*' on the DIPC-Scaled measure to determine

whether the effects observed remained when focusing on direct aggression. One additional variable was created, 'direct aggression (perpetration)', in line with more traditional measures used in general aggression research as used by Archer and Southall (2009). Specific items used in the analysis are presented in Appendix two. These two variables were used for continuous analysis rather than categorical analysis traditionally used when examining aggressor groups in prisons (Ireland, 2002).

Relationship between direct aggression, personality and beliefs

Table 7.7 presents the correlations between the main variables used in the study.

Table 7.7: Correlations between direct aggression, personality and beliefs about aggression

	E	A	C	N	O	I
Direct Aggression	.06	-.25**	-.21**	-.14	-.02	.33**
Extraversion (E)		.38**	.28**	.35**	.37**	.11
Agreeableness (A)			.49**	.21**	.44**	-.21**
Conscientiousness (C)				.33**	.50**	-.22**
Neuroticism (N)					.11	-.18*
Openness (O)						-.02

*$p < .05$. ** $p < .01$

As can be seen in Table 7.7, there was an association between instrumental beliefs and self reported engagement in direct aggression as predicted; slightly greater than the correlation observed examining total perpetration items ($r=0.33$ from direct aggression items compared to $r=0.30$ using total perpetration items).

Regarding personality traits, as predicted there were associations between the traits and self-reported direct aggression. Specifically, agreeableness and conscientiousness were negatively correlated with direct aggressive behaviour ($r= -.25$ and $r= -.21$ respectively) There were no significant correlations between aggression and neuroticism, openness or extraversion. A multiple regression (Enter method) was performed to determine whether self reported direct aggression, the dependent variable, could be explained by personality traits and beliefs about aggression, the independent variables. Table 7.8 provides a summary of the analysis.

Table 7.8: Regression of direct aggression onto personality and beliefs about aggression

	B	**SE B**	**β**
Instrumental beliefs	0.21	0.07	.28*
Extraversion	0.30	0.07	.04
Agreeableness	-0.19	0.09	-.22
Conscientiousness	-0.00	0.09	-.00
Neuroticism	-0.06	0.07	-.09
Openness	0.06	0.09	.06
R²		0.13	
F		3.69*	

* *p* < .001

The adjusted R² value of 0.13 indicates that beliefs about aggression and personality variables account for thirteen percent of the variance in self reported direct aggression. The overall model fit was significant: *F(7*, 124) = 3.69, P <0.001. The strongest single variable was instrumental beliefs, which was positively related to direct aggression: β = 0.278, t = 3.02, P <0.01. This means that increased self reported instrumental beliefs about aggression are predictive of increased self reported direct aggression. This was the only significant predictor. This suggests that personality traits are not as important as beliefs in the choice to use direct aggression.

A second regression analysis was completed using total perpetration as a dependent variable, to examine if differences in predictor variables for overall aggressive acts. The model was significant, F (6, 125) = 3.08, p<.008. The

adjusted R^2 value indicated the model accounted for 9 percent of the variance in total perpetration reported. Instrumental beliefs remained a significant predictor (β = 0.169, t = 1.90, P <0.05). However agreeableness was the strongest single predictor of engagement in overall aggression (β = -0.262, t = -2.47, P <0.01). When examining overall aggression personality and beliefs are important factors.

Relationship between indirect aggression, personality and beliefs

Analysis was then completed on the *indirect* aggression scale of the DIPC-Scaled, to examine the relevant characteristics associated with perpetration of indirect aggression. Table 7.9 presents the correlations between the main variables used in the study and indirect aggression.

Table 7.9 Correlations between indirect aggression and personality and beliefs about aggression

| | Indirect aggression (DIPC-Scaled) | |
	n	Pearsons correlation
Extraversion	161	0.09
Agreeableness	170	-0.21*
Conscientiousness	179	-0.02*
Neuroticism	179	-0.14
Openness	168	0.03
Instrumental beliefs	164	0.28**

*$p < .05$. ** $p < .01$

The results replicated those found with direct aggression; with an association with instrumental beliefs (r=.28) and negative correlations with agreeableness (r= -.21) and conscientiousness (r= -.02).

A multiple regression (Enter method) was then performed to determine whether engagement in indirect aggression, the dependent variable, could be explained by personality traits and beliefs about aggression, the independent variables. The adjusted R^2 value of 0.11 indicates that beliefs about aggression and personality variables account for 11 percent of the variance in indirect aggression. The overall model fit was significant: $F(7, 147) = 3.51$, P <0.002. None of the individual variables, however, reached significance in predicting indirect aggression, suggesting neither personality nor beliefs explain the intent to use indirect aggression.

7.7   Summary of results

Findings indicate that prisoners reporting engagement in aggression hold greater beliefs supporting the use of instrumental aggression than individuals subject to victimisation. Furthermore low levels of instrumental beliefs were shown to predict membership of the pure victim group.

The study also examined the role of personality in the choice to aggress and the findings were mixed. There were no observed mean differences in

personality traits between the four groups involved in aggression. However, regression analyses showed low agreeableness and high neuroticism predicted membership to the perpetrator category whilst low neuroticism predicted membership to the mutual perpetrator-victim category.

7.8   Discussion

The rates of perpetration and victimization observed are in line with previous findings, with indirect aggression being most commonly reported (Ireland & Ireland, 2008). The latter finding adds support to the claims that indirect is enacted by men as it is in women (Archer, 2004; Bandura, 1978; Warren et al, 2011) and thus should be included in the study of aggression.

The prediction that beliefs supportive of aggression would be higher in the perpetrator groups was partly supported, with both perpetrator groups showing higher instrumental beliefs than victims. This is consistent with the findings of Archer and Haigh, 1997a; Archer and Graham-Kevan, 2003 and Holland et al, 2009. This also supports theoretical approaches such as Social Information Processing (e.g., Huesmann, 1998).

Unfortunately due to an unacceptable alpha coefficient findings could not be analysed for the expressive belief scale. This finding in relation to the

EXPAGG expressive belief scale is, however, consistent with previous research (Archer & Haigh, 1997a) and suggests that subscale is less reliable.

The hypotheses that personality traits would differ was also partly supported, some evidence for lower agreeableness and higher neuroticism in pure aggressors and lower neuroticism in mutual aggressor victims. This supports the findings of previous research using forensic samples (Bartlett & Anderson, 2012; Bettencourt et al, 2006; Hosie et al, 2014; Jones et al, 2011; Lee & Egan, 2013; Skeem et al, 2005).

Examination of indirect and direct forms of aggression revealed similarities in the associations. Both forms were significantly associated with instrumental beliefs, lower levels of agreeableness, conscientiousness and neuroticism, although it should be noted this relationship was only significant for direct aggression. The current study provided partial support for the reported relationship between indirect aggression and impulsivity (Warren et al, 2011) but not significantly with neuroticism (Richardson & Green, 2003). The relationship observed in the current study was lower levels of conscientiousness correlating with higher levels indirect aggression; which others have argued may be understood in terms of underlying impulsivity associated with lower levels of this trait (Jensen-Campbell et al, 2007; Jones, Miller & Lynam, 2011).

The study investigated whether beliefs about aggression were associated with the choice to use aggression in forensic settings. Support was found for existing Social Information Processing models (Huesmann, 1998) and past research in terms of the relationship with instrumental beliefs; with a significant positive relationship between self reported aggression and instrumental aggressive beliefs (Archer & Haigh, 1997a; Archer & Graham-Kevan, 2003; Holland et al, 2009). In fact instrumental beliefs were the strongest single predictor in the regression model of overall and direct aggression when combined with personality variables. However, cognition was more influential than personality when examining direct aggression only. This latter finding lends support to Social Information Processing models of aggression which suggest that aggression is underpinned by beliefs supporting its use (Anderson & Bushman, 2002; Huesmann, 1998).

The specific hypothesis that perpetrators would hold higher instrumental beliefs about aggression than other categories was only partly supported. Perpetrators only demonstrated higher instrumental aggressive beliefs in comparison to victims and not in relation to all other categories, as was predicted. This finding did, however, extend to mutual perpetrator-victims who also reported more instrumental beliefs.

The finding that the perpetrator category held greater instrumental beliefs is consistent with previous research indicating that perpetrators appear to hold

cognitions consistent with the use of instrumental aggression (Palmer & Thakordas, 2005). This is in line with Social Information Processing theory (Huesmann, 1998) and the General Aggression Model (Anderson & Bushman, 2002), whereby aggressors are known to hold beliefs supportive of aggression (e.g., in this case greater instrumental aggressive beliefs).

Unfortunately the study was unable to examine differences on expressive beliefs owing the low internal reliability of the expressive belief subscale. This may be attributable to the measure used or may indeed support contentions in the literature that this concept of instrumental-expressive has limited utility (Bandura, 1983). It is important to note that the terminology used in the literature in relation to beliefs about aggression is unsatisfactory. It may be that the measure used here, the EXPAGG, was unsuitable to measure all aspects of personal evaluations of aggression particularly in a forensic sample. That is, the measure may not truly capture the cognitions consistent with expressive aggression.

The finding in relation to instrumental beliefs being greater amongst perpetrators does lend support to the previous finding of Ireland and Archer (2002) who indicated that perpetrators of aggression tended to view aggression as positive (e.g., helpful). In the present study this group are reporting beliefs that endorse the planned (i.e., instrumental) use of aggression, thereby indicating that they believe this to be appropriate and

acceptable. Therefore this study suggests that those who believe aggression to be a helpful strategy to resolve problems and achieve goals are more likely to engage in aggression in prison. The findings suggest that perpetrators may be acting aggressively, in line with their greater instrumental beliefs, as they expect the environment to support their use of aggression (Ireland & Archer, 2002).

Conversely, past research has found associations between anger and aggression in 'pure perpetrators' possibly suggesting use of reactive aggression (Palmer & Thakordas, 2005). This study did not measure emotion. Emotion is a key component of aggression and this may account for more of the variance in individual differences than beliefs and personality alone. The observation in the study of aggressors reporting increased levels of neuroticism (i.e., emotional instability) may suggest a key role for emotion in aggressors in secure settings and warrants further investigation.

Furthermore it was not possible to directly examine expressive beliefs in this study but there is some support for the previous finding noted here. It may be possible to infer perceptions of emotional control from the personality findings. That is, pure aggressors reported higher neuroticism, therefore perceiving themselves as having less emotional control and therefore perhaps more use of reactive aggression than the mutual perpetrator-victims who reported lesser neuroticism.

With regards to personality and aggression, it was initially predicted that perpetrators would report significantly lower scores on agreeableness, conscientiousness, and openness to experience, and higher scores on neuroticism than the remaining sample. The study did not support this, therefore previous research was not supported (Bettencourt et al, 2006; Caprara et al, 1994; Egan, 2009; Eysenck, 1992; Gleason et al, 2004; Jensen-Campbell et al, 2007; Jones, Miller & Lynam, 2011: Miller & Lynam, 2006).

Indeed it was only when exploring the *predictors* of category membership that there was some partial support, with the perpetrator category predicted by reduced levels of agreeableness and increased levels of neuroticism. As noted, the results demonstrated that mutual perpetrator/victims were not aligned with the perpetrator category in this regard. Agreeableness was not a predictor for this category whereas decreased levels of neuroticism were. Thus it appears whereas there is some convergence with the perpetration groups in relation to instrumental beliefs, this did not extend to predictors of category membership (e.g., involvement in aggression).

Furthermore the current results suggest that it is the 'pure' perpetrator category whose personality is most consistent with the more reported expectations from the literature (Gleason et al, 2004; Caprara et al, 1994), whereas mutual perpetrator-victims are not. This is not an altogether

surprising finding when it is considered that previous research has been

failed to separate out perpetrators and victimisers, resulting in an over-focus

on a 'pure aggressor' category. This fails to acknowledge heterogeneity

within this category, specifically the existence of mutual perpetrator-victims.

The results indicate overall that increased levels of less helpful personality

traits represents a predictor of perpetrator category status, whereas for victim

and low-frequency/casual involvement categories personality did not appear

as predictors.

Nonetheless, the finding that low agreeableness, increased neuroticism and

increased instrumental beliefs were associated with perpetrator status does

serve to highlight the similarities between the general aggression literature

and prison based aggression in terms of the personality and belief structures

underpinning aggression (e.g., Anderson & Bushman, 2002). This suggests

more convergence between forensic and general samples than is perhaps

commonly realized, particularly since agreeableness and neuroticism are the

more reliably reported personality components related to aggression in

general samples. It appears to be equally the case with forensic samples.

The current findings, although mixed and not entirely as predicted, are

important since they may increase our understanding of the individual factors

implicated in aggression. It has been suggested, for example, that victims

have poor coping skills (e.g., high neuroticism) and this is why they remain

victimised. However the current results do not support this with high neuroticism not featuring either for victims or mutual perpetrator-victims. It may be that the higher neuroticism in the pure perpetrator relates to higher emotional expression. Unfortunately this was not measured in the current study and so it is difficult to ascertain if this is case.

The absence of neuroticism as a defining feature challenges stereotypical view of victims, particularly since decreased neuroticism was a predictor of perpetrator-victims. If this category is conceptualized more as a victim group (Ireland & Ireland, 2008), then it presents a view of a victim as being calm, rational and less likely to react to stressors. This is not a stereotypical view. Indeed the present study supports a role for increased neuroticism as a predictor for those solely engaging in perpetration, which again is in keeping with the general aggression literature which points to high neuroticism scores as directly related to increased aggression (Sharpe & Desai, 2001; Tremblay & Ewart, 2005).

Accounting for the prison environment also becomes important when trying to explain how one category involved in perpetration (e.g., mutual perpetrator-victims) are not predicted or influenced by personality in the direction expected in the general aggression literature. Mutual perpetrator-victims are considered to be a particularly interesting category within prison based research where it is suggested that they have developed as a transient group

purely in response to the prison environment and the threats that this environment poses (Ireland, 2002).

The Interactional Model of Prison bullying (Ireland, 2002) and the Multifactor Model of Bullying in Secure Settings (MMBSS; Ireland, 2012) both emphasise the dual role of environmental and individual factors in aggression and it could be that personality is not a significant factor alone. In fact the current study lends weight to the models as it suggests no one individual factor, such as personality, is as influential in aggression in secure settings as the combination of other factors, e.g., environmental aspects, such as beliefs (as part of social attitudes).

In conclusion, the rates of aggression reported were in line with past findings, with indirect aggression most common (Ireland & Ireland, 2008). As was predicted, instrumental aggressive beliefs were greater among the perpetrator categories (Palmer & Thakordas, 2005). This highlights important applications for clinical settings in the management of aggression, suggesting that clinicians need to consider interventions which focus on identifying and managing instrumental aggressive beliefs. One such strategy may be focusing on identifying alternative non-aggressive strategies that can meet their needs. This is important as the individual with instrumental aggressive beliefs is likely to view aggression as helpful and purposeful and may need support considering alternatives to aggression.

The study also reported on a relationship between personality and aggression although this only related to predictors for category membership and applied only to perpetrators and mutual perpetrator-victims. Whereas perpetrators were described in a way that was consistent with more general research into aggression, mutual perpetrator-victims were not. This suggests that convergence between the perpetrator groups does not extend to personality and is inconsistent with research suggesting that perpetrators and mutual perpetrator-victims are broadly similar with regards to intrinsic qualities (Ireland, 2002).

7.9   Limitations of this study

There were some limitations with the present study that need to be acknowledged. One such limitation is the measurement of perpetration and victimisation based purely on self report. It may have been beneficial to supplement the self report with objective measures of aggression (e.g., staff observations). As aggression in secure settings can be covert, this would have been difficult to accurately measure.

In addition to using self report to measure aggression, the use of this approach to measure attitudes can also be a weakness. It is possible that the self reported attitudes do not accurately reflect the true attitudes held, with participants perhaps feeling they could not honestly report their true views for

fear of reprisal. That is to say that despite the questionnaires being anonymous participants may have been cautious of the overall feedback being given to the establishment and impacting negatively on them. In addition research suggests that individuals can hold multiple contrasting attitudes (Ajzen, 2001). This is perhaps a difficulty in the measurement of an internal construct such as attitudes.

The current study was unable to explore the role of expressive motivation in aggression due to the unreliability of this component of the EXPAGG. This does suggest that the assessment of expressive motivation among prisoner samples is in need of some review, and that the measure originally developed to assess this among general samples is not translating well.

Finally, the current study did not find any personality and belief variables to be related to the not involved category. It may be due to the sample or it may be that personality and beliefs do not define the choice *not* to aggress in prison. It may be that environmental factors need examination to further the understanding of the not involved category.

7.10   Issues for further research

This study confirmed the importance of personality and beliefs in aggression in forensic settings, although the variance explained by these factors was

low. It is clear therefore that other factors need to be examined to understand intent to aggress.

The study showed some consistency between forensic samples and the general aggression literature in terms of personality, with the pure perpetrators more closely aligned in this regard. Nevertheless it will be important to examine other factors alongside personality to understand the true relationship between aggression and individual differences. It seems that neuroticism, or emotional instability, plays an important role and it will be important to further examine emotion in aggressors.

Connected to this, previous research has indicated that fear is vital in prison aggression (Ireland, 2011b). Indeed the MMBSS posits that fear is an acute dynamic risk factor, exacerbating stable individual traits, leading to aggression (Ireland, 2012). Measuring both fear and personality to examine the relationship with each variable and also their interaction is worthy of future research.

A significant aspect clearly absent from the study was examination of the environment since the results have shown individual factors alone cannot account for the choice to aggress. This finding is consistent with past research which suggests that the secure environment influences the attitudes

and behaviour of aggressors through physical characteristics but also through the social climate (e.g., Cooke & Johnstone, 2010; Ireland, 2002).

The current study also did not suggest individual characteristics were as important in predicting the not involved/low involvement category. It may be that environmental factors are more influential for understanding the choice for this category *not* to aggress. Therefore focus on the perceptions of the physical and social climate will be beneficial.

Furthermore, the social climate captures not only those housed in secure settings but also staff members. Theoretical frameworks such as the MMBSS outline the significant contribution of staff members in the secure environment. It posits that the attitudes held by staff can facilitate aggression. Thus this is an important area of enquiry in order to understand the intent to aggress. The ensuing study aims to address these areas.

Chapter 8

STUDY 2: THE INFLUENCE OF THE ENVIRONMENT

8.1   Structure of the chapter

The current study[3] aimed to examine the social and physical environment in the secure setting outlined as influential in models such as MMBSS (Ireland, 2012). The previous study presented in Chapter seven suggested beliefs about aggression were important individual characteristics in the choice to aggress. MMBSS outlines how attitudes held by those in the setting can also play a role in an individual's choice to aggress. The current study aimed to examine attitudes held by staff in forensic settings; described as a social environment characteristic in MMBSS. Furthermore it aimed to use samples from two different establishments to investigate the role of the physical environment. Finally the study explored the impact of the physical and social environment characteristics on the intervention approach of the staff in the management of aggression. Figure 8.1 details the structure and aims of the Chapter.

---

[3] Study two has been published and key results presented here are contained in the publication; Turner, P & Ireland, J.L (2011) Officer attitudes towards intra-group aggression in young people and young adults: Does the reported motivation of an aggressor impact on intervention and support? *International Journal of Law and Psychiatry*, 34, 309-316. A copy of the publication is contained in Appendix seven.

Structure (section)	Aims
Exploratory analysis of attitude measures (ATP and PAS) (8.6)	*To examine the nature of attitudes and their factor structure, covering both the ATP (attitudes towards prisoners) and PAS (attitudes towards aggression)*
⬇	
Associations among variables (8.7) Examination of differences between sites	*To investigate differences between the two samples (open and closed sites).*
⬇	
Influence of individual differences over attitudes (sex, age, length of service)	*Exploring effects of sex, age and length of service over attitudes, understanding of aggression motivation and intervention preferences.*
⬇	
Influence of attitudes over intervention approach	*Exploring the influence of general attitudes towards prisoners and aggressive attitudes over intervention preference.*
⬇	
Staff understanding of aggression motivation	*Examination of ability to correctly understand aggression motivation according to vignette example and exposure to aggression.*
⬇	
Influence of exposure to aggression	*Investigation of the influence of exposure to aggression over attitudes compared to workplace and sex.*
⬇	
Summary of results (8.10)	
Discussion (8.11)	

Figure 8.1: Structure and aims of Chapter eight

8.2   Participants

One hundred and ten officers from two young offender sites participated. Site A was a closed (e.g., secure) site and site B was an open facility (e.g., less secure conditions). Rates of aggression in young offender sites tend to be greater than in adult establishments and thus may provide an opportunity to examine attitudes towards a behaviour occurring frequently. Two sites were chosen to examine differences in environmental characteristics, as, for example, physical procedural security is greater in secure sites than open sites.

In site A, a 22 percent response rate was achieved; a total of 350 questionnaires distributed, 80 returned and 59 useable. In site B a 51 percent response rate was achieved; with 100 questionnaires distributed amongst staff and 51 returned. The mean overall age was 42 years old (age range 20-63 years, SD 9.3). The average length of service within the prison service was 12 years (SD 7.6). Sixty eight percent were men and 32 percent were women. Table 8.1 presents the descriptive statistics according to site and sex.

Table 8.1: Descriptive statistics for the sample (n=103)[*]

		n	Age (SD)	n	Length of service (SD)
Overall sample	Men	70	44.0 (7.7)	70	13.9 (7.6)
	Women	33	38.8 (11.3)	29	7.6 (5.2)
	Total	103	42.4 (9.3)	99	12.1 (7.6)
Site A (Closed conditions)	Men	37	45.0 (7.8)	37	14.8 (8.2)
	Women	17	37.4 (9.6)	16	8.3 (5.4)
	Total	54	42.6 (9.1)	53	12.9 (7.9)
Site B (Open conditions)	Men	33	42.9 (7.6)	33	12.9 (7.3)
	Women	16	40.3 (12.9)	13	6.7 (4.9)
	Total	49	42.0 (9.6)	46	11.2 (7.2)

* Based on the total sample post data screening

Officers were asked to report their experience of different forms of aggression between young offenders to examine the exposure to aggression through their work. Table 8.2 presents this data according to sex and workplace setting.

Table 8.2: Reported daily experience of forms of aggression across site and sex

| | Site | | Sex | |
Daily experience of	Closed	Open	Men	Women
Spitting	14.5%	16.0%	15.5%	14.7%
Shouting	87.3%	58.0%	81.7%	55.9%
Punching / kicking	25.5%	16.0%	11.3%	17.6%
Physical fights	45.5%	14.0%	21.1%	29.4%
Arguments	80.0%	38.0%	66.2%	47.1%
Indirect aggression	65.5%	42.0%	56.3%	50.0%

The most frequently experienced form of aggression was shouting, reported as occurring on a daily basis by 73 percent of the sample, followed by arguments (60 percent reported this daily), and indirect aggression (54 percent). Punching and kicking was the least frequently experienced form of aggression, with 13 percent reporting this occurring daily.

Officers were also asked to report the average contact with young offenders during their shift to capture the extent to which they may have experience dealing with aggression against those who may hold primarily administrative posts. Fifty percent of the overall sample reported full contact during their shift, 19 percent reported spending three quarters of their shift with young offenders, 18 percent reported spending half of their shift, 10 percent one quarter and three percent no contact at all. In terms of variation between sites, 36.4 percent of officers in the closed conditions reported spending 'all

shift' in contact with young offenders. Whilst 66 percent of the officers in the open conditions spent their entire shift in contact with young offenders.

8.3   Materials

All officers completed the following three measures, all measures are presented in Appendix Three;

Prison Aggression Scale (PAS; Ireland, Power, Bramhall & Flowers 2009): This measure was adapted from the Prison Bullying Scale (PBS©, Ireland et al, 2009), replacing terms specific to bullying with general aggression terms. The PAS was used to assess attitudes towards aggression between prisoners. The scale contains 39 statements pertaining to attitudes supportive of prison aggression and attitudes not supportive of aggression between prisoners. Participants were asked to rate the extent to which they agreed or disagreed with each statement (1= Strongly Disagree, 4= Undecided, 7=Strongly agree). Items include "Victims ask to be aggressed against" and "It's a good thing to help prisoners who can't defend themselves". This measure was selected to examine 'context specific' attitudes in line with Behaviour Reasoning Theory (Westaby, 2005)

The Attitudes Towards Prisoners Scale (ATP; Melvin, Gramling & Gardner, 1985): This measures general attitudes towards prisoners. The measure contains 36 statements with statements pertaining to positive attitudes towards prisoners and statements concerning negative attitudes towards

prisoners. Participants answered whether they agreed or disagreed with each statement (1= strongly disagree, 3= Undecided, 5= strongly agree). Items include "Prisoners are different to most people" and "Bad prison conditions just make a prisoner more bitter". This measure was selected to examine 'global' attitudes from Behaviour Reasoning Theory (Westaby, 2005)

Two case vignettes were used to assess the impact of attitudes to intervention and support offered. The cases were identical except for motivation of the aggression, one case involving instrumental aggression and the other involving reactive aggression. The vignettes were as follows -

1. *Instrumental aggression case vignette*

Background: Steven has received a two year custodial sentence for a violent offence, namely robbery. Steven has never been in custody before but has committed a number of previous offences, predominantly theft offences with more recent acts of robbery. Steven has been in the care system from a young age, when his mother felt she could no longer care for him. Steven reports learning he had to look out for himself as he could not rely upon others for this.

The incident: It is alleged that Steven has been obtaining goods from other young people in the establishment. The reported information suggests that Steven has been threatening physical violence if he does not obtain the goods he requests and his peers feel intimidated by Steven. It appears that

Steven plans and looks for opportunities to aggress towards others in order to acquire status.

2. *Reactive aggression case vignette*

Background: Steven has received a two year custodial sentence for a violent offence, namely robbery. Steven has never been in custody before but has committed a number of previous offences, predominantly theft offences with more recent acts of robbery. Steven has been in the care system from a young age, when his mother felt she could no longer care for him. Steven reports learning he had to look out for himself as he could not rely upon others for this.

The incident: It is alleged that Steven has been physically and verbally aggressive towards other young people in the establishment. The reported information suggests that Steven has been threatening physical violence and his peers feel intimidated by Steven. It would appear Steven does this during times of stress and when he feels angry.

Case vignettes were randomly assigned, with half of the sample answering questions related to the instrumental aggressive case and half completing questions relating to the reactive aggressor case.

Participants were presented with eight options to explain the function of the aggression, based on the findings of Daffern, Howells and Ogloff (2007).

Four were instrumental motivations and four were reactive aggressive motivations. Officers were asked to rate the best explanations for the vignette example. The options were as follows:

1. To force others to share goods (*instrumental*)
2. To increase social status (*instrumental*)
3. Due to mental illness (*reactive*)
4. He enjoys aggression (*instrumental*)
5. To reduce demands placed on him (*reactive*)
6. To reduce psychological tension (*reactive*)
7. To seek attention (*instrumental*)
8. To express emotion (*reactive*)

Participants were then offered eleven options as to the most appropriate intervention; five of the options were punitive in nature and six were rehabilitative. They were asked to select the most appropriate intervention for the case vignette. The options were as follows:

1. No intervention is necessary; aggression always occurs in this environment (*punitive*)
2. Remove the victims from the wing (*punitive*)
3. Talk to the aggressor and try to find out why he is acting in this way (*Rehabilitative*)
4. Remove the aggressor from the wing (*punitive*)
5. Place the aggressor on increased observations (*punitive*)
6. Create an action plan with the aggressor to help him to reduce this aggression; look at what he gains from aggression and find non-aggressive ways to achieve these gains (*Rehabilitative*)
7. Remove the aggressor's privileges (*punitive*)

8. Recommend the aggressor attends a treatment programme to address his aggression (*Rehabilitative*)
9. Discuss the case with your line manager or peers and consider why the aggressor is acting this way (*Rehabilitative*)
10. Organise a meeting with the aggressor and the victims and encourage all to remain friends (*Rehabilitative*)
11. Ensure violence reduction posters are visible on the wing and remind all young persons that aggression will not be tolerated from anyone (*Rehabilitative*)

8.4   Procedure

Ethical approval was obtained by the School of Psychology at the University of Central Lancashire and via the Governor of the establishment. All officers on shift at the time on the day of the study were invited to participate. A brief overview of the aims of the research was provided to officers verbally and they were asked to complete the questionnaires in their own time and to place them in sealed unmarked envelopes for collection by the researcher later that day.

Written consent was not acquired as this was considered a threat to participant anonymity and thus consent was determined by the return of the completed measure. All officers were provided with debrief sheets at the end of their shift.

8.5   Data screening

Data screening was used as a precursor to the main analysis. First missing values were analysed. Dummy variables were assigned to the subscales of the ATP and PAS before the subscales were totalled. The data was examined to determine whether missing values highlighted in the total scores were 'true' missing values (i.e., more than 25% of the measure not completed) or could be replaced to improve the dataset. True missing values were assigned '0' in the dummy variable and possible missing values were '1'. Exploration of the data showed only six subjects had missing data.

Analysis was completed to determine if the values were missing at random. T-tests were chosen to ensure the missing values were not related to other variables. T-tests were used to examine whether missing values were significantly associated with age. Results indicated no significant differences were present in the dataset for the ATP or PAS. Therefore the missing values on the measures were missing at random and could be replaced with the mean score for each missing item. Bivariate correlations were conducted before and after the missing value replacements. No significant differences were observed in the correlations pre and post missing value replacements.

Univariate outliers were identified using box-plots to examine the spread of data for the average subscale scores on the ATP and PAS. This identified 5

univariate outliers which were noted whilst the multivariate outliers were determined. No multivariate outliers were identified using regression analysis and examining the Mahalanobis distance (where cases were considered extreme on more than one item with a score of more than 25, therefore negatively impacting on the dataset). Indeed no participants were over 10. Five outliers were removed from the dataset to aid distribution spread. Removal of these outliers greatly reduced Kurtosis (0.92) and Skewness (0.88). Resulting distribution scores were reduced to acceptable levels when standard errors were accounted for (Kurtosis = -0.29; Skewness = 0.37). The final sample thus comprised 105 participants.

Reliability was of the ATP and PAS was assessed using Cronbach's alpha. Table 8.3 presents the reliability levels for all subscales of the measures. The ATP achieved good reliability across the two subscales, conforming to an acceptable standard of reliability 0.80 or above (Howitt & Cramer, 2000).

Table 8.3: Overall means and reliability table for ATP and PAS

		n	Number of items	Cronbach's Alpha	Mean (SD)
ATP*	Negative subscale	105	20	0.90	56.9 (12.1)
	Positive subscale	105	16	0.87	51.4 (9.4)
PAS*	Overall scale	104	39	0.77	81.4 (16.8)

*Overall range: ATP negative scale 58 (minimum 28: maximum 86); ATP positive scale 42 (minimum 30: maximum 72); PAS 76 (minimum 53: maximum 129).

Table 8.4 presents the correlations across all measures to show the associations between the constructs measured.

Table 8.4: Correlations across ATP and PAS

Subscales	ATP Negative (n)	ATP positive (n)	PAS (n)
ATP Negative scale		-0.81* (105)	0.53* (104)
ATP Positive scale			-0.44* (104)

* p<.01

Table 8.4 shows relationships between high scores on the PAS (attitudes endorsing aggression as positive) and on the ATP negative attitudes towards prisoners. There is also an inverse relationship between negative and positive general attitudes towards prisoners as would be expected. This shows that staff holding high negative views of prisoners hold low positive views and vice versa.

8.6 Exploratory analyses of attitudinal measures employed

Factor structure of measures used: ATP

Factor analysis was completed to explore the factor structure of the ATP with the current sample to ensure the analyses were based on reliable factors resulting from the sample. The eigenvalues and scree plot revealed there to be two common factors. Kaisers test of sampling adequacy revealed a high degree of common variance (0.88), and Bartlett's specificity test was

significant (2038.17, $p=$<0.001). Therefore the data were suitable for factor analysis.

A principal component (varimax rotation) was selected, restricted to two factors, with coefficients with absolute values less than 0.5 suppressed. Eleven items did not load onto either of the factors. One item loaded onto both factors ('Prisoners should be under strict, harsh discipline'). Table 8.5 describes the factors.

Table 8.5: Factor structure of the Attitudes Towards Prisoners (ATP) scale

Item	Loading
Factor 1: Negative qualities of prisoners (28.6 percent of the variance; eigenvalue 10.3)	
Prisoners are always trying to get something out of somebody	.78
Prisoners are generally mean	.77
Prisoners are different from most people	.74
In general, most prisoners are basically bad people	.72
Prisoners only think about themselves	.71
Prisoners never change	.67
Most prisoners are too lazy to earn an honest living	.66
The values of most prisoners are about the same as the rest of us	-.66
Prisoners are basically immoral	.63
Most prisoners are stupid	.62
I wouldn't mind living next door to an ex-prisoner	-.62
Prisoners respect only brute force	.61
You should not expect too much from a prisoner	.61
In general, prisoners act and think alike	.57
Prisoners should be under strict, harsh discipline	.55
I would like associating with some prisoners	-.54
Most prisoners have the capacity for love	-.53
Some prisoners are quite nice people	-.53
Trying to rehabilitate prisoners is a waste of time and money	.52
I would never want one of my children dating an ex-prisoner	.52
Factor 2: Positive views of prisoners (13.9 percent of the variance; eigenvalue 5.0)	
Only a few prisoners are really dangerous	.66
Most prisoners are the victims of circumstances and deserve to be helped	.64
Most prisoners can be rehabilitated	.59
If you give a prisoner respect, he will give you the same	.58
Prisoners should be under strict, harsh discipline	-.55
Bad prison conditions just make a prisoner more bitter	.54

The analysis resulted in two core factors. Factor one comprised of 20 items and explained the highest proportion of the variance (28.6 percent). This factor reflected negative interpersonal qualities of prisoners. A high score on

this factor indicated negative attitudes towards prisoners as people and a dislike of prisoners in general. This factor proved to be internally reliable, producing an alpha level of 0.94 (based on n= 105). Item-to-total correlations were all positive. The alpha level is high which suggests all participants were scoring in the same direction.

Factor two comprised of 6 items and explained 13.9 percent of the variance. This factor reflected positive views of prisoners. A high score on this factor represents an attitude that prisoners are capable of change, and prison should provide the opportunity for this. This factor proved to be internally reliable, producing an alpha level of 0.75 (based on n= 105). Item-to-total correlations were all positive.

Factor structure of the PAS

Factor analysis was completed to examine the factor structure of the PAS measure, to ensure the subsequent analyses were based on reliable factors from the current sample. The scale is suggested to be a unilateral measure, with nine items representing non-aggressive attitudes. These nine items are reversed in the analysis, so that a high score represents pro-aggressive attitudes and a low score depicts non-aggressive attitudes. The eigenvalues and scree plot revealed there to be seven common factors. Kaisers test of sampling adequacy revealed a moderate degree of common variance (0.67),

and Bartlett's specificity test was significant (1413.54, $p=<0.001$). Therefore the data were suitable for factor analysis.

A principal component (varimax rotation) was selected, restricted to seven factors, with coefficients with absolute values less than 0.5 suppressed. This revealed two of the seven factors not to be true factors (with less than 2 items above 0.5 loading on to each factor). Fifteen items did not load onto any of the factors. Two items loaded onto more than one factor ('I despise victims' loaded onto factors one and two; 'You shouldn't make fun of people who don't fight back' loaded onto factors two and five). Table 8.6 describes the factors.

Table 8.6: Factor structure of the Prison Aggression Scale (PAS)

Item	Loading
Factor 1: Pro-aggressive attitudes (11.7 percent of the variance; eigenvalue 4.6)	
Its ok for some prisoners to call some prisoners names	.66
I cant stand prisoners who keep running to staff when somebody picks on them	.64
Victims ask to be aggressed against	.60
Being aggressed against does some prisoners good	.59
Prisoners who are unable to look after themselves really annoy me	.59
Aggression would not happen if victims stood up for themselves more	.55
I despise victims	.55
Aggressors help to keep 'order' on the wing	.52
Factor 2: Negative views of victimisation (8.4 percent of the variance; eigenvalue 3.3)	
Victims cant be helped	.69
Prisoners who don't fit in deserve to be aggressed against	.64
I wish prisoners could dominate more and get away with it	.58
Victims don't deserve to have friends around here	.57
You shouldn't make fun of people who don't fight back	.52
I despise victims	.50
Factor 3: Victims as weak/attention seeking (6.5 percent of the variance; eigenvalue 2.5)	
Prisoners only report aggression to get attention from staff	.84
Prisoners only report aggression to get attention from other prisoners	.83
Aggressive prisoners are mentally stronger than other prisoners	.51
Factor 4: Victims should be helped (6.4 percent of the variance; eigenvalue 2.5)	
It's a good thing to help prisoners who cant defend themselves	.81
I like it when someone stands up for prisoners who are being aggressed against	.72
Prisoners who are weaker than others should be helped	.62
Aggression has a bad effect on the wing atmosphere	.53
Factor 5: Recognition of individual differences (5.5 percent of the variance; eigenvalue 2.1)	
Victims should be helped	.62
Prisoners who are weak are asking for trouble	.54
You shouldn't make fun of people who don't fight back	.54
Aggressive prisoners are skilled at controlling others	.53
Aggressive prisoners are physically stronger than other prisoners	.51

Factor one comprised eight items and explained the highest proportion of the variance (11.7 percent). This factor reflected 'pro-aggressive' attitudes. A high score on this factor indicated attitudes supportive of aggression in the prison context. This factor proved to be internally reliable, producing an alpha level of 0.77 (based on n= 104). Item-to-total correlations were all positive.

Factor two comprised six items and explained 8.4 percent of the variance. This factor reflected 'anti-victim' attitudes. A high score on this factor represents an attitude that victims were deserving of aggression. This factor proved to be moderately internally reliable (certainly for a scale of only six tems), producing an alpha level of 0.66 (based on n= 104). Item-to-total correlations were all positive.

Factor three comprised three items and explained 6.5 percent of the variance. This factor reflected 'victims as attention seekers'. A high score on this factor represents an attitude that victims only reporting aggression to gain attention from others. This factor proved to be internally reliable, producing an alpha level of 0.76 (based on n= 104). Item-to-total correlations were all positive.

Factor four comprised four items and explained 6.4 percent of the variance. This factor reflected victims should be helped by others. A high score on this factor represents the view that victims should be supported. This factor

proved to be moderately internally reliable, producing an alpha level of 0.66 (based on *n*= 105). Item-to-total correlations were all positive.

Factor five comprised five items and explained 5.5 percent of the variance. This factor reflected recognition of individual differences in prisoners. This factor proved to be less internally reliable than the other factors, producing an alpha level of 0.58 (based on *n*= 104). Item-to-total correlations were all positive.

8.7   Associations among variables

The following predictions were indicated in Chapter six;

Predictions

2a: Women officers will report higher positive general attitudes towards prisoners, more non-aggressive attitudes and will select more appropriate aggression motivation and more rehabilitative intervention approaches;

2b: Older officers will report more positive general attitudes towards prisoners and more rehabilitation approaches;

2c: More experienced officers will report greater positive general attitudes towards prisoners and greater context specific attitudes than less experienced officers;

2d: Increased positive attitudes towards prisoners and increased non-aggressive attitudes will predict identification of rehabilitation approaches to aggression. Increased negative attitudes towards prisoners and increased pro-aggressive attitudes will predict identification of punitive approaches to aggression.

The results are presented in order of the hypotheses; examining individual differences (age, sex, length of service) in attitudes and intervention preferences, before examining the influence of attitudes over intervention and understanding of aggression motivation. Before hypotheses were tested exploratory analysis was conducted to investigate any differences between the two samples (open and closed sites). The results of the exploratory analysis follow.

Examination of differences between samples (open and closed prison sites)

Before examining the differences on reported attitudes, exploratory analysis was conducted on the differences between the two samples (e.g., open or closed security conditions). Table 8.1 presents the mean scores for age and length of service for each site. One way ANOVA revealed there to be *no* significant differences for age or length of service $F_{(1,101)} = 0.103$ns and $F_{(1,97)} = 1.21$ns. Thereby confirming there were no core demographic differences between the two sites which may influence results.

Table 8.7 presents the mean scores for attitudes and exposure to aggression, according to workplace setting.

Table 8.7: Mean attitudes and exposure to aggression according to workplace

	Closed site		Open site	
	n	Mean (SD)	n	Mean (SD)
Total exposure to aggression	55	25.0 (4.7)	49	20.5 (4.1)
Negative qualities of prisoners	55	57.7 (7.9)	50	51.5 (6.5)
Positive qualities of prisoners	55	19.1 (3.0)	50	20.4 (2.6)
Pro-aggressive attitudes	54	16.7 (6.6)	50	13.4 (5.4)
Rehabilitation approach	53	12.6 (4.6)	48	26.1 (3.3)
Punitive approach	51	14.57 (2.3)	48	14.4 (2.7)

One way ANOVA revealed significant differences between sites on attitudes. Staff in the closed site reported significantly greater pro-aggressive attitudes, $F_{(1,102)} = 7.83$, p<.006, and greater attitudes endorsing negative qualities of prisoners, $F_{(1,103)} = 19.0$, p<.001. Staff in open conditions reported greater positive qualities of prisoners, $F_{(1,103)} = 5.84$, p<.01. Therefore suggesting that staff in the open setting held more favourable views of prisoners than staff in the closed site.

Exposure to aggression differed, with the closed site reporting significantly more experience of aggression between prisoners than the open condition site $F_{(1,102)} = 26.7$, p<.001. In addition, intervention preference differed with staff in open conditions reporting significantly greater preference for rehabilitation approaches in the management of aggression, $F_{(1,99)} = 279.6$, p<.001. No differences were observed between sites on the preference for punitive approaches $F_{(1,97)} = 0.19$ns.

These findings were taken into consideration and further analysis was conducted after testing of hypotheses to understand the influence of workplace setting.

Influence of individual differences over attitudes (Hypothesis 2a, 2b and 2c)

Analysis was completed to explore the influence of individual differences such as age, sex and length of service over attitudes, understanding of aggression and intervention preference. Table 8.8 presents the mean self reported attitudes towards aggression and prisoners, according to sex and age.

Table 8.8: Mean self reported attitudes for sex and age

	Men		Women		Younger officers		Older officers	
	n	Mean (SD)	n	Mean (SD)	n	Mean (SD)	n	Mean (SD)
ATP: Negative qualities scale	71	56.1 (7.9)	34	52.0 (6.9)	52	55.3 (6.9)	51	54.6 (8.6)
ATP: Positive qualities scale	71	19.4 (3.1)	34	20.3 (2.4)	52	19.8 (2.8)	51	19.4 (3.0)
PAS: Pro-aggressive attitudes	71	16.2 (6.5)	33	12.9 (5.1)	52	15.8 (6.5)	50	14.6 (6.0)

Sex differences: ANOVA was completed to assess differences in attitudes. No significant difference was observed on the positive qualities of prisoners subscale, $F(1,103) = 2.14$ns. However, significant differences were observed with men endorsing greater scores on the negative qualities of prisoners scale, $F(1,103) = 6.42$, $p<.01$, and more pro-aggressive attitudes, $F(1,102) = 6.78$, $p<.01$, than women. No significant differences were observed according to sex for ability to understand aggression motivation ($F(1, 95)=0.48$ns) or intervention preference ($F(1, 99)=0.05$ns). Thus sex differences were observed, with men reporting greater pro-aggressive and negative general attitudes than women.

Age: Median split analysis was used to compare older and younger officers by separating them into two groups. Median splits serve to restrict power,

limiting the potential for finding inflated effects. This can be a criticism but is a positive reason for implementation if you wish to be stringent. Owing to the large number of variables analysed in the data set this was felt appropriate; to avoid increasing the potential for measurement error (i.e., inflated supportive findings). The median age of the sample was 43 years. Univariate ANOVA found no significant effects for attitudes, or rehabilitation approaches, $F(1,97) = 0.34$ns. Therefore no differences emerged due to age.

Length of service: Length of service (experience) was also examined using median split analysis. There were no significant effects based on _years experience_ for positive attitudes towards prisoners, $F(1,97) = 0.15$ns; or negative attitudes, $F(1,97) = 0.05$ns. There was no significant effect over aggressive attitudes based on years experience, $F(1,96) = 0.21$ns. Length of service therefore had no impact on attitudes.

Influence of attitudes over intervention approach (Hypothesis 2d)

The correlations between attitudes and intervention preference are presented in table 8.9.

Table 8.9: Correlations between intervention approach and attitudes

	Rehabilitative intervention approach	Punitive intervention approach
Negative qualities of prisoners	-.35**	-.04
Positive qualities of prisoners	.23*	.09
Pro-aggressive attitudes	-.23	.10

* $p = <0.02$; ** $p = <0.0001$

As can be seen by Table 8.9 there were significant associations between attitudes towards prisoners and pro-aggressive attitudes and the intention to use rehabilitative approaches. Specifically, positive attitudes to prisoners were positively related to rehabilitation approaches whilst aggressive attitudes and negative perceptions of prisoners were related to less preference for rehabilitative approaches. No significant associations were observed for punitive approach preferences.

Two multiple regressions (Enter method) were performed to determine whether attitudes towards prisoners (positive and negative) and attitudes supportive of aggression were predictive of chosen interventions for aggression. The overall model fit was significant for prediction of rehabilitation approaches, $F_{(3,97)} = 5.28$, $p<.002$. The adjusted R^2 value indicated that 14 percent of the variance in selection of rehabilitation approaches could be accounted for by attitudes. Low negative attitudes towards prisoners, $\beta = -0.26$ $t = -2.24$ $p<.02$ was the only significant predictor.

The regression model examining the prediction of preference for punitive approaches from attitudes was non significant, $F_{(3,95)}$ =0.86ns

Examination of understanding of aggression motivation

Univariate ANOVA was completed to ensure the two case vignette groups (those with the instrumental aggression example and those with the reactive aggression example) were matched. There were no significant differences according to reported experience of aggression, age, length of service or contact with offenders; $F_{(1,101)}$ = 3.01ns, $F_{(1,100)}$ = 0.04ns, $F_{(1,96)}$ = 0.59ns, $F_{(1,102)}$ = 0.09ns.

Differences on selected motivation based on type of aggression in the vignette were explored. Univariate ANOVA was used to determine if aggression type in the case vignette impacted on the ability to identify an appropriate motivation for the aggression. Participants with the instrumental aggressive example were less likely to identify appropriate explanations for the aggression, $F_{(1,95)}$ =41.87, p<.001, and were more likely to identify incorrect explanations for the behaviour, $F_{(1,94)}$ =19.25, p<.001 than those with the reactive aggressive example. Univariate ANOVA was completed to determine if reported exposure of aggression impacted on ability to identify appropriate and inappropriate explanations for the behaviour. There were no significant effects, $F_{(1,94)}$ = 0.33ns, $F_{(1,93)}$ =0.22ns.

Investigation of the influence of exposure to aggression over attitudes

Initial analysis showed significant differences between the attitudes expressed according to workplace (whether open or closed). However, there were also significant differences in exposure to aggression. Thus further analysis was conducted to examine the influence of exposure of aggression over attitudes. Table 8.10 presents the correlations between attitudes and exposure to aggression.

Table 8.10: Correlations between exposure to aggression and attitudes

	Negative qualities of prisoners	Positive qualities of prisoners	Pro-aggressive attitudes
Exposure to aggression	0.35***	-0.30**	0.20*

* $p < 0.05$; ** $p < 0.002$; *** $p < 0.0001$

To examine the influence of the workplace compared to the reported exposure to aggression, three multiple regressions (Enter method) were performed. The aim was to examine the relative contribution of sex, workplace and exposure to aggression over attitudes. The results are presented in Table 8.11.

Table 8.11: Regression of attitudes based on workplace setting, sex and exposure to aggression

	Negative qualities of prisoners (ATP scale)			Positive qualities of prisoners (ATP scale)			Pro-aggressive attitudes (PAS scale)		
	B	*SE B*	*ß*	*B*	*SE B*	*ß*	*B*	*SE B*	*ß*
Workplace	-5.10	1.56	-0.32**	0.65	0.62	0.11	-3.02	1.32	-0.24*
Exposure to aggression	0.24	0.16	0.15	-.13	0.06	-.023*	0.04	0.14	0.03
Sex	-3.19	1.52	-0.19*	0.57	0.60	0.09	-3.06	1.31	-0.23*
R²		0.23			0.11			0.13	
F		9.80***			4.06*			4.86**	

* *p*<.05; ** *p*<.002; ***p<.0001

As can be seen in Table 8.11 workplace setting was a significant predictor of negative attitudes towards prisoners and pro-aggressive attitudes, with the staff in the closed setting reporting greater negative and aggressive attitudes. Workplace setting was more influential in predicting both negative views of prisoners and aggressive attitudes than reported exposure to aggression which was not a significant contributor. Sex was also a significant predictor of negative and aggressive attitudes; with men reporting greater negative and aggressive attitudes. Exposure to aggression did predict positive attitudes towards prisoners, with less exposure leading to more positive general attitudes.

8.8   Summary of results

The findings showed differences in attitudes according to sex but not according to age or length of service. Specifically the study found men to hold greater negative global attitudes of prisoners and greater pro-aggressive beliefs (context specific attitudes) than women. No sex differences were observed in ability to understand the function of aggression or intervention preference. Sex was an important variable in the regression models to determine negative global attitudes and pro-aggressive attitudes, in addition to physical environment characteristics.

Associations were also observed between attitudes and intervention preference. A preference for rehabilitation in response to aggression was correlated with higher positive attitudes and lower aggressive and negative attitudes. Attitudes were significant predictors of a preference for rehabilitation but not punitive approaches; with fewer negative attitudes towards prisoners predicting rehabilitation.

Findings in relation to the role of the physical environment indicated that workplace setting was the most important variable in predicting negative attitudes towards prisoners, followed by sex. Similarly both variables predicted pro-aggressive attitudes. Exposure to aggression was not a significant predictor of either negative or pro-aggressive attitudes. However, less exposure did predict greater positive views of prisoners, workplace setting and sex were not significant predictors.

8.9 Discussion

The study provided evidence for an influence of individual characteristics in staff over reported attitudes and intervention preferences in connection with aggression. The study supported findings in relation to the influence of the sex (Kifer et al, 2003; Ireland & Quinn, 2007) but not age (Craig, 2005; Paboojan & Teske, 1997). Thus the findings suggest that sex can influence attitudes towards aggression *and* prisoners which may facilitate aggressive

acts in forensic settings. This could be also due to men being more likely to be targeted by offenders than women. Future research could measure actual exposure to aggression compared to threats.

Additionally attitudes towards prisoners and aggression were shown to impact on intervention approach, with rehabilitative approaches underpinned by fewer non-aggressive attitudes and positive views of prisoners. This supports research by Brand and Anastasio (2006), Jansen et al (2006) and Reeder et al (2002) in relation to the link between positive views of individuals to approach aggression in a calm and collaborative manner. This perhaps contrasts to the finding of Whittington & Higgins (2002) who claimed pro-aggressive attitudes could lead to rehabilitative approaches. The current findings affirm the important role of staff attitudes, as attitudes influence the way aggression is dealt with and therefore the extent to which it may be facilitated or inhibited by staff.

The study also highlighted the importance of the *physical* environment. The two samples in the study were compared and those in the closed (secure) site reported fewer positive views of prisoners, greater negative attitudes and greater aggressive attitudes. It was assumed that the latter finding may be explained by the increased exposure to aggression reported by staff in the closed site. However, analysis revealed this not to be the case.

In fact *workplace setting* was more influential over negative and aggressive attitudes than exposure to aggression. This suggests the characteristics of the closed site compared to the open site were more influential over both views of prisoners and aggressive attitudes. Such characteristics include greater physical security in the closed site than the open site. This finding lends support for Behaviour Reasoning Theory (Westaby, 2005), where the environment can impact on in both global (views about prisoners) and context specific attitudes (aggressive attitudes).

Past research within nursing contexts has suggested that the workplace environment can shape staff attitudes (Jansen, Dassen, Burgerhof & Middel, 2006). Study two lent support to this, suggesting that the more secure site may contribute to less positive attitudes towards prisoners and more pro-aggressive attitudes. This is of importance when seeking to understand the intent to aggress as this suggests an interaction between the physical setting and social climate (i.e., attitudes held by staff). Theoretical frameworks such as the MMBSS (Ireland, 2012) argue that the attitudes held by staff can facilitate aggression. It seems from the current study that such attitudes are more commonplace in the more secure (closed) environment.

The study found greater preference for rehabilitative approaches in the open conditions than the closed. This is consistent with recent research in psychiatric settings which observed staff in more secure settings to support

the use of restrictive approaches (Pulsford et al, 2013) compared to those in lesser secure settings who favoured rehabilitative approaches in the first instance (Dickens, Piccirillo & Alderman, 2013).

The findings showed that simple exposure to aggression did not account for the greater negative attitudes expressed by staff in the closed site. It may be argued that increased exposure, when *combined* with existing negative views of prisoners (e.g., 'prisoners never change'), leads to reduced preference for rehabilitative approaches from staff. Equally it may be that staff become more restrictive in their approach in an effort to protect themselves and feel safer. The design of the current study prevents conclusions to be made about this as a longitudinal design would be needed.

It seems, however, that the observations from the closed site staff may provide support for Behaviour Reasoning Theory (Westaby, 2005). It may be that the officers in the closed site adopt greater pro-aggressive attitudes (i.e., context specific attitudes) in order to explain the behaviour they see more regularly than staff in the open site. Interestingly, research with nurses suggests that attitudes supportive of aggression can lead to a calmer and more tolerant management approach (Whittington & Higgins, 2002). The current study appears to undermine this in that staff with greater pro-aggressive attitudes had less preference for a rehabilitative management of aggression.

A possible explanation may be that the emphasis on physical security measures in the closed setting undermines a rehabilitative approach. That is, the closed site may enforce policies and procedures favouring the use of punishment and sanctions in response to aggression whilst the open site may be more collaborative in its orientation. Previous research has shown mixed results in relation to the impact of organisational approach on aggression (Bowers et al, 2014; Katz & Kirkland, 1990). The current study may provide some support for the link between highly structured settings and aggression (Bowers et al, 2014).

Conversely the greater frequency of aggression in the forensic setting could also lead to the increased negative general attitudes about prisoners. This is consistent with theoretical approaches such as GAM (Anderson & Bushman, 2002) and MMBSS (Ireland, 2012) who highlight how frequent exposure to aggression can lead to desensitisation towards aggression. However, the exposure in the current study appeared to also lead staff viewing prisoners negatively. This is perhaps also consistent with the work of Reeder et al (2002) who found participants made more negative judgements about the individual when the aggression was viewed as purposeful. It may be that the officers in the closed site, where aggression is frequent, commonly perceive the motive for aggression as instrumental.

The study also found evidence of a relationship between attitudes and behaviour intention, positive attitudes related to a preference for rehabilitation. The MMBSS highlights that attitudes in the social environment can be influential in that attitudes supportive or indifferent to aggression can increase its likelihood (Ireland, 2012). The present results do indeed show that *less* experience of aggression was related to greater selection of rehabilitation approaches. Further indicating that greater experience of aggression is associated with a reduced intention to intervene using rehabilitation approaches and contributing indirectly to greater aggression. This study thereby confirms this aspect of the model.

The finding that women reported fewer pro-aggressive attitudes than men is in line with previous research (Archer, 2004) but is not wholly consistent with Behaviour Reasoning Theory which would predict both sexes would adopt views consistent with their experience. That is, it might be expected that women in the current study may be more accepting of aggression simply by their reported increased experience of it than women in the general population. The current research is perhaps highlighting the influential role of sex differences (as an individual difference) over attitudes. Despite these observed differences in attitudes according to sex, the study found no impact of sex on intervention approaches or motivation identified.

The study did not find support for effects of age or length of service contrasting therefore to the findings of Crawley (2004), Farkas (1999) and Paboojan and Teske (1997). This does not support the hypothesis that older officers would be more positive and rehabilitative in their approach. One reason for this may be related to the average age of the sample. The average age of the current sample was slightly older than in previous research. It may be that older officers were over represented in the current sample and thus findings were limited.

The present study also did not find that experience in terms of length of service impacted on attitudes, contrasting to Crawley (2002) but replicating Kjelsberg et al (2007). Thus this implies that factors other than experience in forensic settings influence attitudes. Indeed the study showed sex to be one such factor and it may be that length of service exacerbates pre-existing attitudes. Again a longitudinal design would be necessary to examine this.

Whilst length of service was not found to be important, context specific experience (i.e., experience of aggression) was influential. The study found those reporting *less* experience of aggression between prisoners reported *more* positive general attitudes towards prisoners. This disproves the hypothesis where it was predicted that more experience would lead to positive general attitudes based on the assertions of Whittington & Higgins (2002). Indeed the current research shows that exposure to aggression did

not lead to tolerance but contributed to negative views of prisoners. It may be that pre-existing negative attitudes are strengthened by exposure to aggression. It may also be that officers adopt negative views of prisoners to reduce dissonance arising from exposure to threats to personal safety, in line with Cognitive Dissonance Theory (Festinger, 1957).

The findings further highlight the influence of attitudes over rehabilitation approaches but not over punitive approaches. The current research suggests that rehabilitation and punishment are two separate concepts and that the absence of a rehabilitative approach does not automatically suggest a punitive one. This perhaps shows support for the claim of Brand and Anastasio (2006) that individual understandings of the causes of behaviour links to their chosen method of intervention. For example, if the individual feels prisoners are capable of change then they are likely to feel rehabilitation should be provided.

In conclusion, this study found evidence of the influence of the physical and social environment over staff attitudes. The physical environment appears to influence attitudes towards prisoners and aggression more than exposure to aggression. This study replicated past findings with regards to sex differences in attitudes towards aggression but this was not found to impact on understanding of aggression or intervention approaches.

This research has important implications for clinical practice, particularly in relation to the difference between understandings of aggression according to type of aggression. The research showed that instrumental forms of aggression lead to greater selection of inappropriate explanations than the reactive aggressive case vignette. Establishments may need to ensure that training is given on the possible motivation for aggression. This is important as misidentification of the perceived motivation of aggression is likely to lead to inappropriate intervention (Ireland, 2008; McDougall, Clark & Fisher, 1994).

8.10   Limitations of this study

The two attitudinal measures selected for the study were chosen to represent a measure of 'global' versus 'context specific' attitudes which may be held by staff; in line with Behaviour Reasoning Theory (Westaby, 2005). The aim was to determine the influence of the environment on attitudes, whether specific contextual attitudes may differ to global attitudes and whether the environment characteristics could underpin this. It could be argued that the ATP was an inaccurate global attitude measure. That is, it may have been more useful to examine general views of aggression (i.e., outside the prison setting) compared to the attitudes derived from the PAS.

Furthermore, the methodology used to allocate the two vignettes randomly to participants may also have been a limitation. The study did not employ a matched independent subjects design; participants completed either the instrumental aggressive case example or the reactive aggressive example. It may be that those who misidentified the motivation of the instrumental aggression would also misidentify the motivation of the reactive example, thereby being an individual difference and not specifically related to the type of aggression per se.

However, it is important to note that, whilst groups were not matched, there were no significant differences between either vignette group according to experience of aggression, age, length of service and contact with young people. Finally, it is also possible that the reported attitudes do not accurately reflect the true attitudes held: research suggests that individuals can hold multiple contrasting context dependent attitudes (Ajzen, 2001) with this an unavoidable challenge in research exploring attitudes.

8.11   Issues for further research

This study has highlighted a potential key role in the physical environment (i.e., closed versus open environment) as an associating factor with staff attitudes (a key aspect of the social environment) and potentially influencing their approach to dealing with aggression. It is not clear from the study what

specific aspects of the physical environment may be associating with the attitudes reported by staff. Further research is required to examine the aspects of the physical environment in detail which may contribute to intent to aggress. Specifically it will be important to ascertain *perceptions* of the physical and social environment in staff and prisoners to examine the influence of specific aspects over aggression. This is the focus of the ensuing study.

Chapter 9

STUDY 3: THE ROLE OF INDIVIDUAL AND ENVIRONMENTAL CHARACTERISTICS IN THE INTENT TO AGGRESS

9.1 Structure of the chapter

The aim of this study was to determine which aspects of individual differences and environmental characteristics were most predictive of intent to aggress in the secure setting, using the Multifactor Model of Bullying in Secure Settings (MMBSS) as a framework. The current study builds on findings of the earlier studies presented in Chapter seven and eight, which identified the importance of individual characteristics (personality traits and beliefs) and the significance of the environment (social and physical aspects) by exploring them in more detail within the same study, using a sample of both prisoners and prison officers.

In addition an element absent from the previous studies and noted as important in study one was attention to the role of emotion. Thus the current study will investigate the emotion of fear and how this relates to aggression and the possible interactions with other variables of interest. This study concludes by combining the factors using a path and moderation analysis to determine which were most predictive of intent to aggress. Figure 9.1 outlines the aims and structure of this chapter.

Structure (section)	Aims
Exploratory analysis of environmental measure (9.6)	*To examine the factor structure of the environmental measure (ESCQ) which captures both physical and social components*
Analyses exploring associations among variables (9.7) Engagement in aggression Personality, beliefs, impressions of the environment and overall aggression	*To summarise extent of aggression reported and key individual differences, including fear, beliefs, personality, and perceptions of the environment in aggressors, victims and those not involved in aggression*
Categories involved in aggression and victimisation; Individual differences amongst categories	*To investigate the individual differences and perceptions of the environment in the four common subgroups involved in aggression found in secure settings*
Staff beliefs and perceptions of the environment	*To examine differences across attitudes and perception of the social environment among staff*
Path and moderation analysis (9.8)	*To determine the pathways leading to aggression and to examine the role of fear in moderating stable individual characteristics.*
Summary of results (9.10)	
Discussion (9.11)	

Figure 9.1: Structure and aims of Chapter nine

9.2 Participants

A category B establishment in the North West of England agreed to host this research study. As previously noted, a Category B prison is defined as suitable for those individuals who do not require the very highest conditions of security, but present as a medium to high risk to the public. A description of each sample follows.

Prisoner sample

Twelve hundred questionnaires were distributed across the institution. Four hundred and thirty two adult male prisoners participated, representing a 36 percent response rate. The mean age was 30 years old (age range 18-73 years: SD 10.3); 25 participants did not indicate their age on the questionnaire. Eighty five percent were of White ethnic origin, five percent were Asian or Asian British, four percent were Black or Black British, four percent were of mixed ethnic origin and one percent were Chinese. Eighteen prisoners did not specify their ethnic origin. The average total time spent in secure institutions was 54.4 months (range 0 to 330 months: SD 60.2); 67 prisoners did not provide this information. The average current sentence being served was 41.3 months (range 0-360: SD 54.4); 174 prisoners did not respond to this question.

Three hundred and eighty six prisoners provided information about their index offence. Thirty one percent was convicted of violent offences, 27

percent of an acquisitive offence, 12 percent of drug related offences, six percent of sexual offences and 13 percent of other indictable offences. Other offences included offences such as driving offences, breach of bail conditions and trespassing. Ten percent did not disclose their index offence. Table 9.1 presents the descriptive statistics for the sample based on offence type.

Table 9.1: Descriptive statistics for the prisoner sample; n=432

	n	Age (SD)	Length of Current sentence (SD)	Average total time in prison (SD)
Violent offences	136	28.1 (9.6)	58.8 (67.4)	57.6 (64.6)
Sexual offences	26	38.9 (16.3)	92.8 (71.0)	41.4 (53.3)
Acquisitive offences	116	29.4 (9.2)	25.3 (40.9)	58.4 (59.3)
Drug offences	52	30.6 (9.8)	43.9 (30.1)	56.9 (67.1)
Other	56	30.7 (10.1)	21.9 (37.1)	38.8 (39.8)
Missing	46	-	65.2 (81.1)	66.1 (70.5)
Total	432	30.2 (10.5)	41.3 (54.4)	54.4 (60.2)

Staff sample

Seventy eight prison officers participated from the same category B establishment. A total of 200 questionnaires were distributed, representing a 39 percent response rate. The mean age was 34 years old (age range 22-57 years, SD 8.6). The average length of service within the prison service was

five years (SD 2.9). Fifty four percent were men and 46 percent were women; two officers did not specify their sex on the questionnaire. Ninety five percent of the sample was of White ethnic origin, three percent were of mixed ethnic origin, one percent were Black or Black British and one percent were Chinese. Table 9.2 presents the descriptive statistics for the sample based on sex.

Table9.2: Descriptive statistics for staff sample; n=78

	n	Age	SD	Length of service	SD
Men	41	33.7	8.1	4.4	2.8
Women	35	35.0	9.3	5.3	3.1
Missing	2	-	-	-	-
Total	78	34.3	8.6	4.8	2.9

9.3   Materials

All prisoners completed the following four measures, all measures are contained within Appendix Four:

Direct and Indirect Prisoner Behaviour Checklist-Revised (DIPC-R; Ireland, 2002). A revised 93 item version of this self report measure was employed to explore self reported discrete forms of direct and indirect aggressive behaviours within the secure setting. Participants were asked to indicate whether, in the past month, they had been victim of any of the 47 acts of

aggression typically occurring in a secure setting or whether they had perpetrated any of the 46 acts of aggression. For example, "I have been verbally threatened by a prisoner" or "I have hit or kicked another prisoner". This version differs to the DIPC-Scaled version used in the first study (see Chapter six) as the DIPC-R uses a dichotomous scale rather than a frequency scale.

Ten Item Personality Inventory (TIPI; Gosling, Renfrow & Swann, 2003). This 10 item measure was used to assess the individual personality characteristics of respondents. It is comprised of 10 items describing characteristics associated with each of the Big Five dimensions (i.e.,, Extraversion, Conscientiousness, Agreeableness, Neuroticism, and Openness). Participants were asked to rate the extent to which the characteristic is descriptive of them (1= Disagree strongly, 4= Neither agree nor disagree, 7= Agree strongly). For example, "Extroverted, enthusiastic" and "Critical, quarrelsome (gets into arguments)".

Threat appraisal for behavior Revised (TAB-R, Ireland, 2009). The TAB-R presents participants with a list of items felt to be likely behavioural responses to aggression. It assesses preferred choices and also normative beliefs (i.e., the expectations of other prisoners with regards to what responses should be effective). Participants were asked to rate a range of different aspects including, the likelihood of certain behavioural responses to aggression, the degree to which they expect to be aggressed against and the

extent those in the environment would endorse certain behavioural responses. Three subscales can be calculated from the measure - a) 'Expectation of aggression and harm' – this subscale captures the extent to which individuals believe the occurrence of aggression is likely and they may come to direct harm in the establishment; b) 'Aggressive beliefs' – this consists of normative beliefs supporting the use of aggression in interpersonal conflict and views that others would support this behaviour; c) 'Prosocial beliefs' – this subscale includes beliefs about helping those at risk of victimisation and using adaptive coping aimed at reducing the occurrence of aggression.

Environment and Social Climate Questionnaire (Smith, 2009). The 50 item measure was used to examine perceptions of the physical and social prison environment. The scale contains statements such as "The staff punish prisoners by taking away their privileges" and "Prisoners here follow a regular routine every day" Participants were asked to rate the extent to which they agree or disagree with each statement on a four point scale of Strongly Agree, Agree, Disagree and Strongly Disagree.

The staff sample completed the TAB-R and the ESCQ. They were given one section of the DIPC-R measure (whether they had observed prisoners perpetrating any of 47 listed acts of aggression in the past month). The staff sample were not asked to complete a personality measure.

9.4   Procedure

Ethical approval was obtained by the School of Psychology of the University of Central Lancashire and via the Governor of the establishment. The sample included all prisoners based on randomly chosen prison wings throughout the establishment at the time of the study. All prisoners on each wing were invited to participate and provided with a coversheet indicating the purpose of the study in order to obtain informed consent. Written consent was not acquired as this was considered a threat to participant anonymity and thus consent was determined by the return of the completed measure. Prisoners were also provided with information concerning what they should do if the measures caused distress. This was in accordance with local prison policy.

Participants completed the questionnaire on their own, in their cells. Questionnaires were distributed during an extended lock-up period (when cell doors were locked) during a training day when prisoners were locked in their cells for the morning and afternoon periods. Questionnaires were placed under cell doors and handed in, completed or uncompleted, in sealed unmarked envelopes during mealtimes. These were provided to the researcher and not opened by officers. It was stressed that participant names or prison numbers were not required, and that the questionnaire only required basic descriptive information. Prisoners were informed that if they experienced any difficulties in completing the measures (including any

literacy difficulties), that they could ask for assistance. No prisoners requested this. All prisoners were provided with a debrief sheet.

All officers on shift at the time of the study were invited to participate. Questionnaires were distributed at the start of a training day and officers were asked to complete the measures during the day and place them in sealed unmarked envelopes for collection by the researcher later that day. It was stressed that participants' names or staff numbers were not required, and that the questionnaire only required basic descriptive information.

9.5   Data screening

Data screening was employed prior to the core analysis. First missing values were analysed. The data was examined to determine whether missing values highlighted in the total scores were 'true' missing values (i.e., more than 25% of the measure not completed) or could be replaced to improve the dataset. True missing values were assigned '0' in the dummy variable and possible missing values were '1'. This identified 142 subjects in the prisoner sample with missing data on the ESCQ measure and eight subjects in the staff sample. Missing data refers to items on the measures which were not completed.

Analysis was completed to determine if the values were missing at random. t-tests were chosen to ensure the missing values were not related to other variables. t-tests were also used to examine whether missing values were significantly associated with age and average current sentence. Results indicated no significant differences were present in the prisoner dataset for the ESCQ measure (age t=0.89, p<.72; sentence t=0.21, p<.21). For the staff sample t-tests compared age and average time employed as a prison officer. Results indicated no significant differences were present in the dataset (Age t=-0.03, p<.98; Time in service t=1.20, p<.23).

Bivariate correlations were conducted before and after the missing value replacements; analysing the correlations amongst the scales in the data set. No significant differences were observed in the correlations pre and post missing value replacements.

Outliers were identified using z scores as recommended by Field (2005) to examine the spread of data for the average subscale scores on the TIPI and ESCQ. This identified no outliers in the staff or prisoner sample on the ESCQ. However the TIPI extraversion scale included 2% of the sample with a Z score above 2.58 (a normally distributed sample should contain no more than 1% above this). Multivariate analysis revealed five subjects in the prisoner dataset with extreme Mahalanobis distance, where cases were considered extreme on more than one item with a score of more than 25,

therefore negatively impacting on the dataset. These cases were subsequently excluded from data analysis to aid distribution spread. Removal of the outliers greatly reduced Kurtosis (0.34) and Skewness (0.08). Resulting distribution scores were reduced to acceptable levels when standard errors were accounted for (Kurtosis = 0.29; Skewness = 0.03). The final prisoner sample therefore comprised of 427 participants. No multivariate outliers were found in the staff sample and the final sample comprised of 78 officers.

Reliability of the DIPC-R, ESCQ and TAB-R was assessed using Kuder-Richardson and Cronbach's alpha. Alpha coefficients are not presented for TIPI subscales owing to each scale only comprising of two items and thus unsuitable for analysis of this kind. However, this measure is well validated in previous research (Gosling, Renfrow & Swann, 2003).

Table 9.3 presents the reliability levels for all subscales of the measures for the prisoner sample.

Table 9.3: Overall means and reliability table for DIPC-R, ESCQ, TIPI and TAB-R (Prisoner sample)

		n	Number of items	Kuder-Richardson[4]	Mean (SD)
DIPC-R	**Total Perpetration**	427	46	.95	1.69 (4.9)
	Physical perpetration	427	8	.85	0.25 (0.9)
	Indirect perpetration	427	13	.85	0.67 (1.7)
	Theft related	427	13	.89	0.31 (1.3)
	Verbal perpetration	427	8	.79	0.34 (1.0)
	Sexual Perpetration	427	2	-	0.03 (0.2)
	Psychological	427	2	-	0.08 (0.3)
	Total Victimisation	427	47	.96	3.29 (7.3)
	Physical Victim.	427	8	.82	0.45 (1.2)
	Indirect Victim.	427	14	.89	1.30 (2.6)
	Theft related	427	13	.89	0.80 (2.1)
	Verbal Victim.	427	8	.83	0.52 (1.3)
	Sexual Victim.	427	2	.69	0.07 (0.3)
	Psychological	427	2	.70	0.15 (0.5)

		n	Number of items	Chronbach's Alpha	Mean (SD)
ESCQ	Positive environment	359	29	.94	44.7 (14.7)
	Negative environment	359	16	.87	30.1 (7.2)
	Total scale	358	50	.93	73.1 (16.6)
TIPI	Extraversion	338	2	-	8.13 (2.4)
	Agreeableness	352	2	-	9.58 (2.4)
	Conscientiousness	353	2	-	9.72 (2.7)
	Neuroticism	355	2	-	6.72 (2.7)
	Openness	352	2	-	9.88 (2.4)
TAB-R	Expectation of aggression	323	10	.96	6.49 (9.0)
	Aggressive beliefs	287	8	.79	6.53 (6.3)
	Prosocial beliefs	288	6	.82	7.20 (5.9)

---

[4] Kuder-Richardson employed owing to the DIPC-R being a dichotomous scale.

As can be observed in Table 9.3, the DIPC-R, TAB-R and ESCQ achieved good reliability across each subscale. Table 9.4 presents the reliability levels for the staff sample.

Table 9.4: Overall means and reliability table for DIPC-R ESCQ and TAB-R (Staff sample)

		n	Number of items	Kuder-Richardson	Mean (SD)
DIPC-R	Total aggression	78	47	.96	15.9 (12.3)
Subscales	Physical aggression	78	8	.79	2.44 (2.1)
	Indirect aggression	78	14	.89	4.95 (4.1)
	Theft related	78	13	.91	4.09 (4.1)
	Verbal aggression	78	8	.77	3.05 (2.2)
	Sexual aggression	78	2	-	0.17 (0.4)
	Psychological	78	2	-	1.18 (0.9)
ESCQ	Positive environment	76	29	.88	50.1 (9.5)
subscale	Negative environment	76	16	.49	29.3 (3.8)
	Total scale	76	50	.85	79.9 (11.9)
TAB-R	Expectation of agg	66	10	.91	21.3 (8.0)
	Aggressive beliefs	63	8	.84	13.9 (6.5)
	Prosocial beliefs	65	6	.75	12.0 (4.6

The only subscale *not* achieving an acceptable level of reliability was the negative environment subscale of the ESCQ. Analysis of the item to total

correlations showed four items were negatively correlated and may explain the low alpha.

In order to display the associations between variables Table 9.5 presents the correlations across measures for the prisoner sample. Table 9.6 presents the correlations for the staff sample. Table 9.5 shows a large number of statistically significant correlations between variables. This may be due to the large sample size and therefore the moderate to large effect sizes are highlighted in bold text.

Table 9.5: Correlations across DIPC-R, TIPI, ESCQ and TAB-r for prisoner sample (* p < .05; ** p < .01; *** p < .0001)[5]

Subscale	P: r (n)	V: r (n)	E: r (n)	A: r (n)	C: r (n)	N: r (n)	O: r (n)	PE: r (n)	NE: r (n)	EA: r (n)	AB: r (n)	PB: r (n)
Perpetration (P)	-	**.57*** (427)	.06 (338)	-.19*** (352)	-.14** (352)	.08 (353)	-.13** (352)	-.01 (359)	.21 (359)	**.36*** (323)	.22*** (287)	.03 (288)
Victimisation (V)		-	-.19** (338)	-.00 (352)	-.21*** (353)	.28*** (355)	-.15** (352)	-.13** (359)	.09 (359)	**.69*** (323)	**.32*** (287)	.19** (288)
Extraversion (E)			-	-.19*** (329)	.25*** (331)	-.14** (329)	.24*** (328)	.17** (303)	.07 (302)	-.21** (278)	-.02 (251)	-.16** (252)
Agreeableness (A)				-	.28*** (345)	-.17** (344)	**.36*** (343)	-.00 (318)	.03 (317)	-.03 (287)	-.04 (264)	.09 (263)
Conscientiousness (C)					-	-.39*** (346)	**.49*** (344)	.07 (317)	.00 (317)	-.22*** (290)	-.08 (265)	-.00 (265)
Neuroticism (N)						-	**-.34*** (344)	-.13* (317)	.13* (317)	**-.45*** (291)	.12 (265)	.10 (266)
Openness (O)							-	.07 (317)	.07 (317)	-.14** (291)	.00 (268)	.11 (268)
Positive Env. (PE)								-	.22*** (358)	-.27*** (293)	-.13* (271)	-.00 (271)
Negative Env. (NE)									-	.11 (294)	.07 (271)	.06 (271)
Expectation of Agg. (EA)											**.41*** (243)	**.34*** (244)
Aggressive Beliefs (AB)											-	.49*** (267)

[5] Due to the large frequency of significant findings the correlations of a moderate (> 0.3) to large effect size (>0.5) are highlighted in bold text

Table 9.6: Correlations across DIPC-R, ESCQ and TAB-R for staff sample

Subscale	P: r (n)	NE: r (n)	PE: r (n)	EA: r (n)	AB: r (n)	PB: r (n)
Perpetration (P)	-	.19 (76)	.00 (76)	.33** (66)	-.12 (63)	-.14 (65)
Negative env. (NE)		-	-.19 (67)	0.9 (66)	-.01 (62)	-.03 (64)
Positive env. (PE)			-	-.02 (66)	.07 (62)	.18 (64)
Expectation of Agg. (EA)				-	.22 (53)	.35** (56)
Aggressive Beliefs (AB)					-	.33** (61)
Prosocial Beliefs (PB)						-

* $p < .05$; ** $p < .01$; *** $p < .0001$

9.6   Exploratory analysis of environmental measure

Factor analysis was completed to explore the structure of the measure in order to inform the analysis of the perceptions of the environment. The analysis was performed on the prisoner sample and not the staff sample owing to the staff sample being less than 2:1 subject to item ratio (Costello & Osborne, 2005).

The eigenvalues and scree plot revealed two common factors for the prisoner sample. Kaisers test of sampling adequacy revealed a high degree of common variance (0.91), and Bartlett's specificity test was significant (7941.59, $p=<0.001$). Therefore the data were suitable for factor analysis.

A principal component (varimax rotation) was subsequently completed, restricted to two factors, with coefficients with absolute values less than 0.4 suppressed. Five items did not load onto either of the factors. These were 'Prisoners have a say in the running of things'; 'Prisoners are allowed to interrupt staff when they are talking'; 'The prisoners always know when staff will be around'; 'The staff punish prisoners by taking away all their privileges' and 'Prisoners are expected to make decisions for themselves here'. Table 9.7 describes the factors.

Table 9.7: Factor structure of the ESCQ: Prisoner sample

Item	Loading
Factor 1: Positive environment and social climate *(25.1 percent of the variance; eigenvalues 12.6)*	
Staff explain how this place is meant to help people.	.75
Staff take a personal interest in the progress of the prisoners.	.72
The staff go out of their way to help new prisoners get to know each other.	.72
Even the weakest prisoner will be supported by the others.	.70
This is a well organised prison.	.70
Staff always say nice things when a prisoner does something well.	.69
Staff members spend a lot of time with prisoners.	.67
The staff act on prisoners' suggestions.	.66
The prisoners are proud of the way people get along on the unit.	.65
Prisoners here support each other well.	.65
Prisoners get good help with getting settled when they leave the prison.	.64
Staff do what they say they will do.	.64
The stronger prisoners here help to take care of the less strong ones.	.63
Prisoners can talk openly to staff about all their problems.	.62
Discussions here are very interesting.	.62
The prisoners care for each other.	.62
The prison is always clean and tidy.	.61
The staff make sure that this place if always neat.	.59
There is the right number of staff here for the number of prisoners.	.59
If a prisoner is transferred, staff always explain why.	.59
Prisoners volunteer to help out around here.	.56
Prisoners are not often kept waiting when they have appointments with staff.	.55
Prisoners' daily activities are carefully planned.	.53
When prisoners have a genuine concern they find support from other prisoners	.53
Staff know prisoners and their personal histories very well.	.50
Prisoners put a lot of energy into what they do around here	.49
Once a timetable or plan is arranged for a prisoner, they must follow it.	.45
Prisoners here are encouraged to do things for themselves.	.45
Prisoners who break the rules know what will happen to them.	.41

Item	Loading
Factor 2: Negative environment and social climate _(11.3 percent of the variance; eigenvalues 5.7)_	
Some prisoners are afraid of other prisoners.	.74
A lot of prisoners don't do anything with their time here.	.69
People are always changing their minds here.	.68
There are some really aggressive prisoners in this prison.	.67
Most prisoners don't care about other people's problems.	.66
Prisoners do not have enough personal space here.	.63
Really threatening situations can happen here.	.59
The design and layout of the prison means that it can be noisy and unpleasant to live here.	.59
Often, staff seem not to care if inmates succeed or fail at what they do on the Unit	.56
Some prisoners here get worked up so easily that you have to be careful with them.	.56
There are too many prisoners for the size of the prison.	.53
Prisoners who break the rules are punished for it.	-.50
Prisoners here follow a regular routine every day.	-.47
Prisoners can refuse to take part in planned unit activities.	-.44
At times, members of staff feel threatened by some of the prisoners.	.43
Prisoners often take charge of activities.	-.42

Factor one was made up of 29 items reflecting positive attitudes toward the environment. This factor explained the highest proportion of the variance (25.1 percent). A high score on this factor suggests the individual views the establishment as supportive, predictable, collaborative and caring. This factor proved to be internally reliable, with an alpha level of 0.94 (based on n=358) with the prisoner sample.

Factor two consisted of 16 items reflecting negative attitudes toward the environment. This factor explained 11 percent of the variance. A high score on this factor suggests the individual views the establishment as hostile and threatening, unpredictable, crowded and punishing. This factor proved to be internally reliable, with an alpha level of 0.87 (based on n=359) with the prisoner sample.

9.7   Associations among variables

The following predictions were made in Chapter six in relation to the prisoner sample;

Predictions

3a: Aggressors would report higher aggressive beliefs, higher neuroticism, lower agreeableness, openness and conscientiousness scores than non-aggressors;

3b: Victims would report higher fear, higher negative perceptions of the environment and higher expectations of aggression in the setting than aggressors;

3c: The not involved group would report higher positive environment perceptions and higher prosocial beliefs than aggressors and victims;

3d: Those not involved would report higher agreeableness, openness and conscientiousness than aggressors.

The following section will present an overview of self reported aggression and staff reports of observed prisoner aggression. Results will then be presented for the prisoner sample in terms of relationships between personality, beliefs, perceptions of the environment are examined according to reported aggression, victimisation or non involvement. Finally analysis of the data from the staff sample is presented.

Engagement in aggression

Thirty percent of the prisoner sample self reported engaging in at least one form of aggression in the previous month and 50 percent reported one form of victimisation. The overall mean scores are presented in Table 9.3; frequencies of the subtypes of reported perpetration and victimisation are presented in Table 9.8. The most common forms of self reported aggression were verbal and indirect aggression, whilst the most common subtype of victimisation was indirect. Staff report as to the frequency of aggression was significantly greater than self reported engagement/experience. Staff reported the most common forms of aggression perpetrated being indirect and theft related.

Table 9.8: Frequencies of reported perpetration and victimisation

	Prisoners		Staff	
	≥ 1 item	Range	≥ 1 item	Range
Total Perpetration	30%	46	91%	44
Physical	11%	8	72%	8
Indirect	15%	13	85%	14
Theft related	12%	13	83%	8
Verbal	16%	8	76%	13
Sexual	3%	2	14%	2
Psychological	6%	2	68%	2
Total Victimisation	50%	45		
Physical	19%	8		
Indirect	39%	14		
Theft related	16%	13		
Verbal	12%	8		
Sexual	5%	2		
Psychological	11%	2		

Individual differences and environment perceptions (Hypotheses 3a, 3b, 3c and 3d)

Table 9.9 summarises the mean scores across all personality, cognition, emotion and environmental variables for aggressors, victims and not involved.

Table 9.9: TIPI, TAB-R and ESCQ scores according Aggressors, Victims and Not Involved

	Aggressors				Victims				Not involved			
	No aggression		Aggression		No victimisation		Victimisation		Agg. or Victim		No agg/victim	
	n	Mean (SD)	n	Mean (SD)	n	Mean (SD)	n	Mean (SD)	n	Mean (SD)	n	Mean (SD)
Extraversion	229	8.1 (2.3)	109	8.1 (2.6)	169	8.3 (2.3)	169	7.9 (2.5)	190	8.1 (2.5)	148	8.2 (2.2)
Agreeableness	237	9.8 (2.4)	115	9.2 (2.4)	176	9.5 (2.3)	176	9.6 (2.6)	199	9.5 (2.5)	153	9.7 (2.3)
Concientiousness	239	9.9 (2.7)	114	9.4 (2.7)	176	9.9 (2.8)	177	9.5 (2.6)	199	9.6 (2.6)	154	9.9 (2.8)
Neuroticism	240	6.5 (2.8)	115	7.1 (2.5)	176	6.1 (2.7)	179	7.4 (2.6)	202	7.2 (2.6)	153	6.0 (2.7)
Openness	240	9.9 (2.4)	112	9.7 (2.4)	176	10.0 (2.3)	176	9.7 (2.4)	198	9.7 (2.4)	154	10.1 (2.3)
Aggressive beliefs	197	5.4 (5.5)	90	9.1 (7.2)	147	5.1 (5.2)	140	8.0 (7.0)	157	7.9 (6.8)	130	4.8 (5.2)
Prosocial beliefs	195	6.3 (5.8)	93	9.1 (5.9)	146	5.7 (5.2)	142	8.8 (6.3)	158	8.6 (6.3)	130	5.5 (5.2)
Fear of Aggression[*]	275	0.6 (1.1)	121	1.2 (1.5)	204	0.4 (0.8)	192	1.3 (1.4)	215	1.2 (1.4)	181	0.4 (0.8)
Expectation of Agg.	223	4.8 (7.9)	100	10.2 (10.1)	169	2.6 (5.4)	154	10.7 (10.2)	175	10.0 (9.9)	148	2.3 (5.5)
Positive environment	246	44.9 (14.7)	113	44.2 (14.7)	180	46.7 (14.4)	179	42.7 (14.8)	201	42.8 (14.8)	158	47.1 (14.2)
Negative environment	246	29.9 (7.4)	113	30.8 (7.2)	179	29.1 (7.4)	180	31.2 (6.9)	202	30.9 (7.2)	157	29.2 (7.2)

[*] This represents one item on the TAB-R measure asking participants to rate the extent they are fearful of being aggressed against

Aggressors: Associations were observed amongst personality, beliefs and overall aggression (i.e., examining aggressive acts rather than the categories). Table 9.5 highlights significant correlations between aggression and personality. Perpetration of aggression was negatively associated with agreeableness (r= -.19, *p*<.001), conscientiousness (r= -.14, *p*<.01) and openness (r= -.13, *p*<.01). Aggression also correlated positively with aggressive beliefs (r=.22, *p*<.001). A significant association was observed between aggression and expectation of aggression/harm in the environment (r=.36, *p*<.001). Whilst there are a number of statistically significant effects it should be noted that the effect sizes are small.

Analysis was completed to examine group differences. One way ANOVA revealed significant differences between those reporting aggression and the remaining group (i.e., those *not* reporting aggression). Owing to the large sample size, the decision was made to report only the results exceeding Cohen's (1988) convention for a moderate to large effect size. This highlighted significant results in terms of personality (specifically high neuroticism and low agreeableness) were only of low practical significance. Aggressors reported higher aggressive beliefs, F (1, 285)= 23.53, *p*<.001, *d*= 0.58, and higher expectation of aggression and harm, F (1, 321)= 26.62, *p*<.001, *d*= 0.59.

A multiple regression (Enter method) was then performed to determine whether engagement in aggression, the dependent variable, could be explained by personality traits, beliefs about aggression and perceptions of the environment, the independent variables. The adjusted R^2 value of 0.20 indicates that beliefs about aggression and personality variables account for 20 percent of the variance in aggression. The overall model fit was significant: $F_{(9, 188)} = 6.52$, $p<.001$. Significant single variables were; Expectation of aggression and harm, $\beta = 0.36$, $t = 4.47$ $p<.001$; Aggressive beliefs, $\beta = 0.19$, $t = 2.81$ $p<.005$; Neuroticism, $\beta = -0.21$, $t = -2.59$ $p< 0.01$; Agreeableness, $\beta = -0.17$, $t = -2.35$ $p<.020$; Extraversion, $\beta = 0.16$, $t = 2.16$ $p<.032$.

Victims: Analysis of the total victimisation scores demonstrated significant negative associations with extraversion ($r= -.19$, $p<.01$), conscientiousness ($r= -.21$, $p<.001$) and openness ($r= -.15$, $p<.01$). Victimisation was significantly correlated with neuroticism ($r= .28$, $p<.001$). In relation to beliefs, there were positive associations between victimisation and aggressive beliefs ($r= .32$, $p<.001$) and prosocial beliefs ($r=.19$, $p<.01$). There were also significant relationships observed between victimisation and perceptions of the environment. Total victimisation correlated with expectations of aggression and harm ($r=.69$, $p<.001$). There was an inverse relationship with the view of the environment as positive ($r= -.13$, $p<.01$). Thus it is evident

that the only moderate effect size observed is that of victimisation and expectations of aggression and harm.

ANOVA revealed significant differences between those reporting victimisation and the remaining group (i.e., those *not* reporting being victims of aggression). Victims reported higher prosocial beliefs, F (1, 286)= 21.35, p<.001, *d*= 0.54; higher fear of being aggressed against, F (1,394) = 66.17, p<.001, *d*= 0.79, and higher expectation of aggression and harm, F (1, 321)= 80.69, p<.001, *d*= 0.99.

A multiple regression (Enter method) was then performed to determine whether victimisation, the dependent variable, could be explained by personality traits, beliefs about aggression and perceptions of the environment, the independent variables. The adjusted R² value of 0.45 indicates that beliefs about aggression and personality variables account for 45 percent of the variance in victimisation. The overall model fit was significant: *F(*10, 176) = 16.53, P <0.0001. Two individual variables were significant; Expectation of aggression and harm, *β* = 0.66*, t* = 9.78 *p<* 0.0001; and [lower] pro-social beliefs, *β* = -0.12*, t* = -1.90 *p<* 0.05.

Not Involved: Further group differences were observed with those 'Not Involved' when compared to the remaining sample (i.e., anyone reporting aggression and/or victimisation). ANOVA revealed those not involved to

report lower aggressive beliefs, F (1, 285)= 17.97, p<.001, d= 0.51; and lower prosocial beliefs, F (1, 286)= 20.49, p<.001, d= 0.54; lower fear of being aggressed against, F (1,394) = 51.58, p<.001, d= 0.70, and lower expectation of aggression and harm, F (1, 321)= 69.89, p<.001, d= 0.96.

9.8   Categories involved in aggression and victimisation

The preceding analysis in section 9.7 used the presence or absence of aggression to analyse differences between groups. This resulted in overlap in terms of the variables measured. For example, both aggressors *and* victims reported higher expectation of harm. Thus further analysis was undertaken to understand this finding.

Consistent with the approach detailed in study one (see Chapter seven) the DIPC-R data was used to categorise individuals. Median split analysis was again employed to separate the sample to be separated into four groups[6] which is consistent with previous research (Ireland, 2011; Ireland & Ireland, 2008). Those scoring above the median on perpetration items were coded as 'above median perpetrators', those scoring above the median on victimization items as 'above median victims', those above the median on perpetration and victimization as 'mutual perpetrator/victim'. Those reporting either no perpetration or victimization were classified as 'Not involved'.

---

[6] See section 7.6 for an overview.

This approach resulted in 5% (n = 22) of the sample classified as above median perpetrators; 24% (n = 104) above median victims; 25% (n = 107) above median perpetrator-victims[7]; 45% (n = 192) not involved. Table 9.10 presents the mean attitude, personality and environment subscale scores according to the four categories.

---

[7] Will be referred to as the 'Mutual perpetrator-victim group'

Table 9.10: TIPI, TAB-R and ESCQ mean scores according to aggressor category

	Above median perpetrator		Mutual perpetrator victim		Above median victim		Not involved	
	n	Mean (SD)	n	Mean (SD)	n	Mean (SD)	n	Mean (SD)
Extraversion	20	8.5 (2.6)	89	8.1 (2.6)	81	7.9 (2.4)	148	8.2 (2.2)
Agreeableness	22	8.4 (1.8)	93	9.4 (2.5)	84	9.8 (2.7)	153	9.7 (2.3)
Conscientiousness	21	9.8 (2.5)	93	9.3 (2.7)	85	9.8 (2.5)	154	9.9 (2.8)
Neuroticism	22	6.3 (2.6)	93	7.4 (2.4)	87	7.4 (2.8)	153	6.0 (2.7)
Openness	21	9.7 (2.4)	91	9.7 (2.4)	86	9.8 (2.5)	154	10.1 (2.3)
Aggressive beliefs	17	7.0 (4.8)	73	9.6 (7.6)	67	6.3 (5.9)	130	4.8 (5.2)
Prosocial beliefs	16	6.9 (5.6)	77	9.5 (5.9)	65	7.9 (6.6)	130	5.5 (5.2)
Fear of Aggression	22	0.40 (0.9)	99	1.40 (1.5)	94	1.18 (1.3)	181	0.82 (1.2)
Expectation of Agg.	20	4.9 (4.9)	80	11.6 (10.7)	75	9.7 (9.7)	148	2.3 (5.5)
Positive environment	21	43.7 (15.5)	92	44.3 (14.6)	88	40.9 (14.7)	158	47.1 (14.2)
Negative environment	21	28.8 (8.9)	92	31.2 (6.3)	89	31.0 (7.6)	157	29.2 (7.2)

Individual differences amongst aggressor groups

As noted in section 9.7, it was expected that aggressive beliefs, personality traits and views of the environment would differ between aggressor categories. A MANOVA was completed to measure the extent to which the categories reported differing beliefs, levels of fear, personality traits and views of the environment. Using Wilks statistic there was a significant multivariate effect ($F_{(33, 510)} = 2.53$, $p<.001$). Planned comparison tests revealed significant differences on fear, personality, beliefs and perceptions of the environment. Given the large sample size, only the analyses found to exceed Cohen's (1988) convention for a moderate to large effect size were accepted. The differences shown according to personality (specifically higher neuroticism in the victim group compared to perpetrators and those not involved) were shown on the Cohen's value to be of low practical significance (d=0.41).

Fear: The mutual perpetrator-victims reported higher levels of fear than perpetrators ($p<.001$, d=0.80) and the victim group reported higher levels of fear than the perpetrators ($p<.005$, d=0.62).

Beliefs: Aggressive beliefs were higher in the mutual perpetrator-victims than the not involved ($p<.008$, d=0.74). Prosocial beliefs were higher in the mutual perpetrator-victims than the not involved group ($p<.01$, d=0.72).

Perceptions of the environment: Mutual perpetrator-victims and victims reported higher expectations of aggression and harm than the perpetrators (p<.05, *d*>0.62) and the not involved group (p<.001, *d*>0.94).

Predicting category membership

It was expected that individual differences (beliefs, personality and fear) and perceptions of the environment would predict membership to each aggression category when compared to the remaining sample. As with study one, four binary logistic regressions were completed to determine which factors predicted membership to each category. Each group was examined when compared to the remaining sample (i.e., perpetrators to all remaining individuals across three remaining categories). This allows each category to be compared to the remaining sample mean. It also controls for the markedly increased sample size for the not involved category which would dominate any effect if a multinomial regression was used.

The binary variable represented each individual group category, with the continuous predictors representing the ESCQ subscales, beliefs and fear as measured by the TAB-R and the TIPI personality variables. All individual characteristics measured were entered into the model with the environmental factors to determine the contributions of aspects together. Table 9.11 presents the regression findings and individual model statistics.

Table 9.11: Summary of logistic regressions predicting category membership (n=187, missing =240)

	Above median perpetrator	Perpetrator-Victim	Above median victim	Not involved
	B (SE)	B (SE)	B (SE)	B (SE)
Extraversion	.24 (.16)	-.03 (.09)	.07 (.09)	-.10 (.09)
Agreeableness	-.19 (.14)	-.02 (.08)	.09 (.09)	-.02 (.09)
Conscientiousness	-.06 (.14)	.06 (.09)	.03 (.09)	-.01 (.08)
Neuroticism	-.27 (.17)	-.04 (.08)	.08 (.08)	.03 (.08)
Openness	-.08 (.19)	-.02 (.09)	-.15 (.10)	.13 (.10)
Positive environment	.01 (.02)	.02 (.01)	-.04 (.02)	.01 (.01)
Negative env.	-.05 (.05)	.04 (.03)	.00 (.03)	-.03 (.03)
Expectation of agg.	.12 (.08)	.08 (.04)**	.03 (.03)	-.17 (.05) ***
Aggressive beliefs	.02 (.06)	.07 (.03)	-.06 (.04)	.00 (.04)
Prosocial beliefs	.07 (.06)	0.4 (.04)	.05 (.04)	-.09 (.04) **
Fear	-1.7 (.79)*	-.17 (.25)	.15 (.24)	.31 (.28)
Residual X^2	*16.69*	*23.79*	*28.46*	*53.38*
(df, p)	*(df = 11, p < .12)*	*(df = 11, p <.01)*	*(df = 11, p <.003)*	*(df = 11, p < .0001)*
R	*.22*	*.17*	*.21*	*.34*

* $p < .05$; ** $p < .01$; *** $p < .0001$

As is evident in Table 9.11 the most significant model was for the not involved category, with 34 percent of the variance explained by the 11

predictors. The weakest model was the above-median group with only 17 percent of the variance accounted for. The significant predictors observed included the perpetrator group predicted by lower levels of fear; the mutual perpetrator-victim group predicted by higher expectation of aggression and harm in the setting and the not involved group predicted by lower expectation of aggression and harm and lower prosocial beliefs[8].

Staff perceptions of the environment

The following predictions were made in Chapter six in relation to the staff sample;

Predictions

3e: Sex differences will be observed in staff beliefs towards prisoner aggression; men will report higher aggressive beliefs;

3f: Prosocial beliefs in staff will associate positively with positive impressions of the environment whilst aggressive beliefs in staff will associate positively with negative impressions.

The current study aimed to build of the findings of the previous study (Chapter eight) to determine whether the differences observed in aggressive

---

[8] Prosocial beliefs on the TAB-R capture beliefs about helping others at risk and reasoning with individuals to reduce occurrence of aggression.

attitudes across the different prison sites (open or closed[9]) were attributable to perceptions of the environment. Building on the previous study, it was also expected that sex differences would be observed on attitudes. Mean scores are displayed in Table 9.12.

Table 9.12: Mean attitude and environmental perceptions by sex

	Men		Women	
	n	Mean (SD)	n	Mean (SD)
Aggressive beliefs	33	14.3 (5.6)	29	13.6 (7.5)
Prosocial beliefs	36	11.9 (4.3)	28	12.2 (5.1)
Exposure to aggression	41	19.1 (12.6)	35	12.5 (11.2)
Expectation of aggression and harm	36	21.4 (8.0)	28	21.7 (8.0)
Positive environment	40	49.3 (9.4)	34	50.7 (9.8)
Negative environment	40	29.6 (3.8)	34	28.9 (3.8)

Analysis of the differences between the two groups based on sex (using one way ANOVA) revealed no significant differences on aggressive attitudes, $F_{(1,60)} = 0.24$ns or prosocial attitudes, $F_{(1,62)} = 0.05$ns.

There were however, significant sex differences on the reported exposure to aggression, $F_{(1.74)} = 5.64$, $p<.02$; with men reporting significantly higher rates of total aggression witnessed in the past month. Examination of the subtypes of aggression revealed men to report significantly greater exposure

---

[9] A closed site is a secure site housing young offenders posing greater risk whilst an open site is now referred to as a Secure Training Centre. The regime in the latter is based more on relational security than the closed site.

to physical aggression, F (1, 74)=7.31, *p*<.01); indirect aggression, F (1, 74)=5.14, *p*<.05); verbal aggression, F (1, 74)=7.64, *p*<.001); and psychological aggression, F (1, 74)=6.39, *p*<.01). No differences were observed on reported exposure to theft related aggression or sexual aggression.

ANOVA was employed to determine whether sex differences existed for perceptions of the environment. No significant differences were observed on either expectation of aggression and harm in the setting (F (1, 62) = 0.02ns); positive environment subscale (F (1, 72) = 0.36ns) or the negative environment subscale (F (1, 72) = 0.47ns).

Associations between the variables are presented in Table 9.6. It is evident from Table 9.6 that no such relationships were observed. Prosocial beliefs correlated significantly, however, with expectations of aggression and harm in the setting (r=.33, *p*<.01). There was also a correlation between prosocial and aggressive beliefs (r=.33, *p*<.01).

Exploratory analysis was then completed to examine whether age and/or length of service influenced exposure to aggression, perceptions of the environment or beliefs. The only significant effect related to age; (r= -.31, *p*<.01); with younger officers reporting less exposure to aggression.

Comparisons between staff and prisoner perceptions of the environment

The study aimed to build on the previous study by comparing the staff *and* prisoner perceptions of the prison environment. The mean scores of all subgroups are displayed in Table 9.13.

Table 9.13 Mean environment perceptions for prisoners and staff

	Positive environment perception		Negative environment perception	
	n	M (SD)	n	M (SD)
Above median perp.	21	43.7 (15.5)	21	28.8 (8.9)
Mutual perpetrator victim	92	44.3 (14.6)	92	31.2 (6.3)
Above median victim	88	40.9 (14.7)	89	31.0 (7.6)
Not involved	158	47.1 (14.2)	157	29.2 (7.2)
Staff (overall group)	76	50.1 (9.4)	76	29.3 (3.8)

ANOVA was employed to determine whether significant differences between the subgroups according to perceptions of the environment. Analysis found significant differences only according to positive perceptions of the prison setting, $F(4, 430) = 5.34$, p<.001. No significant differences emerged between groups on the perception of the environment as negative. Planned comparison tests revealed the significant differences on the positive subscale were between victims and the staff group (p<.001, d=0.74) and victims and the not involved group (p<.008, d=0.42). The Cohen's effect size value showed only the victim – staff group difference was of moderate practical significance.

9.9   Testing the model: Path and moderation analysis

Path Analysis

Path analysis was employed to examine the role of the individual and environmental variables suggested as predictive of the intent to aggress in existing frameworks (e.g., MMBSS). It was specifically predicted that individual characteristics and environment factors would each predict engagement in aggression. Regression analysis in the current study showed significant individual predictors of aggression to include agreeableness, extraversion, neuroticism, aggressive beliefs, and expectations of aggression/harm.

Thus these five variables were entered into the initial path diagram in the current study using AMOS. In order to satisfy the assumptions of causal modelling consideration was given to the missing data. All missing data was replaced with the group mean (e.g., aggressor or non aggressor). Independent sample t-tests and bivariate correlations were completed to investigate if replacing the missing data altered the significance of differences on variables. No differences emerged when the results were compared to the analysis presented in section 9.7, thus the path analysis was run with the missing data replaced.

Three variables had significant direct effects on aggression; decreased agreeableness (β = -.35, SE = 0.09, p<.001), increased expectation of aggression/harm (β = .18, SE = 0.03, p<.001) and increased aggressive beliefs (β = .12, SE = 0.04, p<.003). Fit indices showed the model was not the best fit for the sample (X^2 = 189.48, df = 10, p< .001; IFI <.28; CFI <.26[10]). RMSEA was .21, further indicative of poor fit[11]. The initial path diagram is presented in figure 9.2.
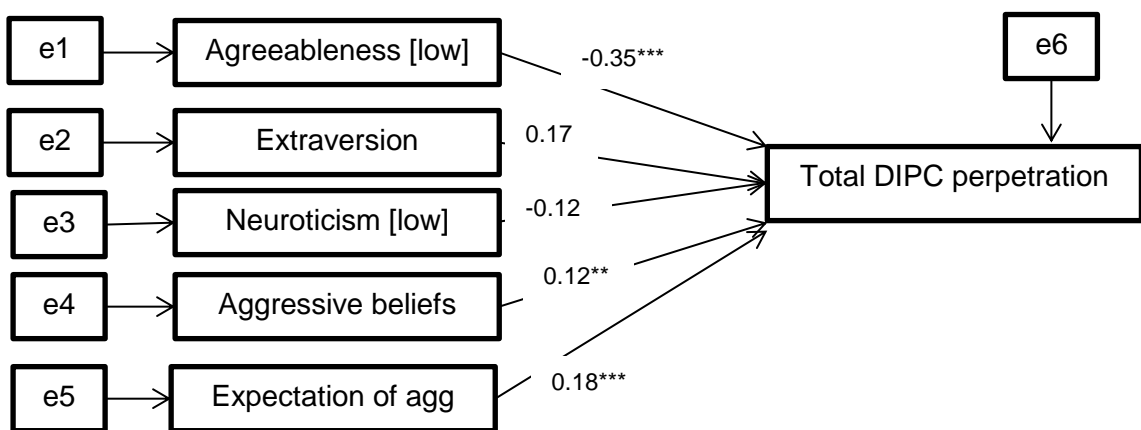
Figure 9.2: Initial path analysis diagram (n=427)

In order to improve model fit the variables observed with non significant path coefficients (neuroticism and extraversion) were removed. Fit indices of the revised model showed that this model was also not the best fitting model for the sample (X^2 = 64.18, df = 3, p<.001). Values for IFI and CFI were

---

[10] IFI and CFI values of >.90 and >.95 indicate good fit.
[11] RMSEA values of >.10 indicate the model should be rejected.

improved at .51 and .50 respectively, although RMSEA remained at .21, indicative of poor fit. The revised path diagram is presented in figure 9.3.
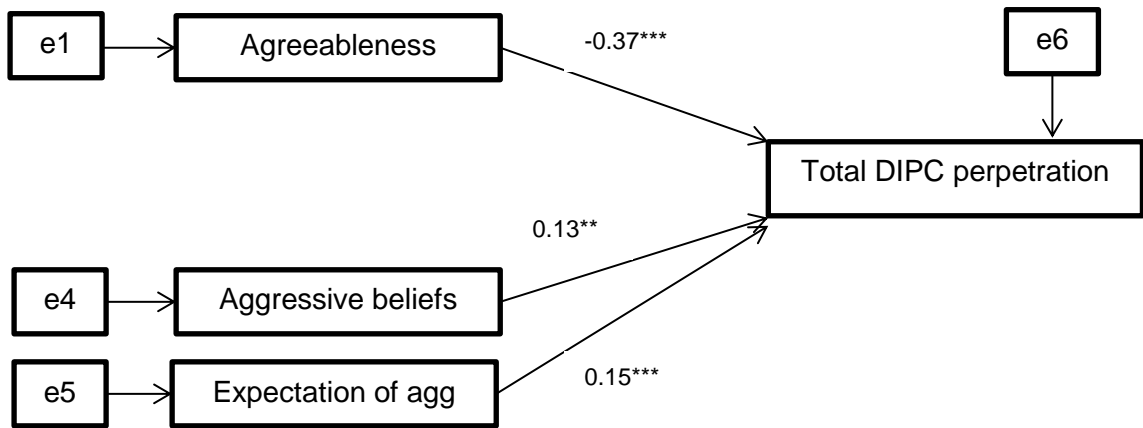
Figure 9.3: Revised path analysis diagram (n=427)

The results of the path analysis indicated that the model chosen was not a good fit with the current sample data. This may be due to sampling issues or may that the model is unable to explain the choice to aggress.

Moderating effects of fear

Fear was not entered into the path diagram as this was a non significant variable in the regression analysis. However, analysis between groups (See section 9.7) indicated significant differences on reported fear. Theoretical frameworks such as the MMBSS suggest a moderating role for fear; with fear impacting on stable individual characteristics to increase aggression.

Moderation analysis was performed using PROCESS procedure (Hayes, 2013). The five variables shown to have significant contributions to aggression in the regression analysis (i.e., agreeableness, neuroticism, extraversion, aggressive beliefs and expectation of aggression/harm) were examined for evidence of interactions. Five individual analyses were completed, each with the dependent variable of total aggression and moderator variable of fear. All predictor variables and fear were individually regressed on to the dependent variable. Fear was recoded into a dichotomous variable using median split analysis. This resulted in two groups, those with no reported fear and those with any level of reported fear.

The relationships between aggression and the five predictor variables were not moderated by fear; all analyses resulted in non-significant interactions (all <0.38). Results of each analysis detailed in Appendix Five. However there was a conditional effect for aggressive beliefs and fear. The results indicated the relationship between increased aggressive beliefs and aggression was moderated by fear ($\beta = 0.22$, SE = 0.10, p<.02).

9.10   Summary of results

The findings showed similarities between the mutual aggressor-victim and victim group with regard to higher levels of fear, higher expectations of threat and harm in the setting and higher pro-social beliefs. Victims differed in

higher levels of neuroticism, although this was a small effect size, whilst the mutual group had higher levels of aggressive normative beliefs.

Findings showed that the pure aggressor group had lower expectations of threat than the mutual aggressor victim and victim group. Greater expectation of threat predicted membership to the mutual aggressor victim group and a lesser expectation of threat that predicted who would not be involved in aggression.

Furthermore the level of fear reported was shown to moderate the impact of aggressive cognitions, with fear increasing the strength of the relationship between aggressive beliefs and engagement in aggression.

Analysis of the staff sample found men had greater exposure to aggression than women but no differences were observed according to beliefs. Significant relationships were instead shown between aggressive and prosocial beliefs and expectation of threat/harm in the setting.

Comparisons between the staff and prisoner sample revealed significant differences in perception of the prison environment as positive; with the staff sample and the not involved group having significantly greater positive impressions of the environment than the victim group.

9.11 Discussion

The reported engagement in aggression was lower than has been found in prison based studies. Almost half the sample reported no involvement; that they were neither aggressors nor victims. This differs to that usually observed in prison research, with the largest category consistently observed to be the mutual-perpetrator victim group (Ireland, 2002; Ireland & Ireland, 2008; Palmer & Begum, 2006; South & Wood, 2006). The estimates in the current study are, however, in line with other research employing the DIPC-R (e.g., Holland et al, 2009). Thus the lower estimated aggression in the current study may be attributable to measure used rather than the sample.

The prediction that aggressors would report higher aggressive beliefs and neuroticism, and, lower levels of agreeableness, openness and conscientiousness was *partly* supported. Associations between aggression and lower conscientiousness and openness were observed but no significant differences were found between aggressors and non aggressors, contrasting with past research (Caprara et al, 1994; Egan & Lewis, 2011; Miller & Lynam, 2001; Miller, Zeichner & Wilson, 2012; Siebert et al, 2010).

Lower agreeableness and higher neuroticism was found in those using aggression, a finding consistent with general aggression literature (Caprara et al, 1994; Miller & Lynam, 2001; Miller, Zeichner & Wilson, 2012; Seibert et

al, 2010) and studies conducted with forensic samples (Zajenkowska et al, 2013). However, the effect sizes were of low significance. The study also found a relationship between neuroticism and victimisation. There were further similarities between aggressors and victims on expectations of aggression and harm, contrary to the predicted hypotheses (Bierie, 2012; Ireland, 2005b; Ireland, 2012; Alison & Ireland, 2012). Further analysis was undertaken to explore this overlap and when the groups were analysed according to the four classic categories found in prison research (Ireland, 2012); perpetrator, mutual perpetrator-victim, victim and not involved. this clarified the specific relationships observed between personality, beliefs and aggression.

The study provides clear support for the utility of these four categories in secure settings supporting their value as indicated in previous research (e.g., Ireland & Ireland, 2008); with the initial analysis using overall groups unable to differentiate between aggressors and victims. It appeared that the mutual perpetrator-victim was influencing the results for both the overall aggressor sample and victim sample. This is not unusual as this group tends to be most dominant (Ireland & Ireland, 2008).

Significant differences then only emerged on neuroticism, with the victim category reporting significantly higher neuroticism than perpetrators and those not involved; although the effect size was small. This is in contrast to

the general aggression literature (Caprara et al, 1994; Grumm & Collani, 2009; Jones et al, 2011) where higher levels of neuroticism are thought to relate to aggression. However, the literature has not tended to examine categories of those involved in aggression in forensic settings and the current study supports the need to carefully analyse those involved in aggression in forensic settings.

Whilst the finding of greater neuroticism in victims may be contrary to general aggression findings (e.g., Caprara et al, 1994), this does lend weight to the concept the victim group may be victimised due to poor coping skills (e.g., emotional instability) or that this could be a by product of being victimised (Ireland, 2002). Furthermore, literature suggests neuroticism is associated with reactive aggression rather than instrumental acts (Bettencourt et al, 2006; Egan, 2009; Miller & Lynam, 2006; Miller, Zeichner and Wilson, 2012). Therefore it may be that the aggressors in the current study were more proactive in their use of aggression and thus no association was observed between aggressors and higher levels of neuroticism.

In terms of other personality traits, it was predicted that those *not* involved in aggression or victimisation would report greater agreeableness, conscientiousness or openness to differentiate them from aggressors in line with past studies (Bierie, 2012; Cornaggia et al, 2011; Dirkzwager & Kruttschnitt, 2012; Molleman & Leeuw, 2012; Van de Helm et al, 2012); this

was not supported. It may be that those housed in forensic settings display fewer adaptive personality traits and thus distinctions between aggressors and non-aggressors in these settings are limited. Indeed the study may support concerns about the use of general models of personality to forensic samples due to the increased likelihood of elevations on certain traits (Ireland & Ireland, 2011), with elevated maladaptive traits shown in the overall sample in the current study.

Furthermore, regression analysis did not indicate personality as a significant predictor for any of the categories. This perhaps undermines the *strength* of the relationship between personality and aggression in secure settings as a sole predictor. This is contrary to the findings with general samples where personality (in addition to cognition and emotion) was shown to predict violence (Bartlett & Anderson, 2012). More pertinent from the regression analyses appeared to be fear, beliefs and expectation of harm in the setting. This is consistent with the first study outlined in Chapter seven in which beliefs appeared to play a more significant role in aggression.

In fact analysis revealed fear to be a moderator of higher aggressive beliefs, highlighting the important interaction between emotions and beliefs in the choice to aggress. This is partly consistent with the finding of Hosie et al (2014) who found cognition *and* emotion to be more influential than personality in the prediction of aggression. This suggests that whilst stable

traits such as personality may provide a propensity to aggress, cognitions and emotion may be more important in the choice to aggress in forensic settings.

The observed moderation of aggressive beliefs by fear observed in the current study further supports many assertions in the literature emphasising the influence of emotion over cognition (Anderson & Carnagey, 2004; Chen et al, 2012; Ireland, 2005; Huesmann, 1998; Lemerise & Arsenio, 2000; Robertson et al, 2012) and in particular supports the application of these findings to forensic samples. Furthermore, when the categories were examined, the higher levels of fear observed in both aggressors and victims in the overall analysis were only observed in the mutual group and victims as was predicted (Ireland, 2005b).

Where the groups differed was on the reported aggressive beliefs. It seems that the presence of aggressive normative beliefs in the mutual perpetrator-victims is what leads them to become aggressors rather than remain victims. Regression analyses confirmed the importance of the high expectation of aggression and harm in the environment, with these aspects predicting membership of this category. Thus it seems to provide significant support for the MMBSS desensitisation pathway (Ireland, 2012) in that results suggest acute factors such as fear may operate to enhance existing stable factors such as beliefs and prompting involvement in aggression.

This is important as the presence of aggressive beliefs appear to differentiate between the mutual group from the perpetrators and victims, who both report similar levels of fear and expectation of harm. This is also consistent with general aggression theory such as the GAM (Anderson & Carnagey, 2004) and the Unified Social Information Processing Model of Huesmann (1998); both of which point to the significance of beliefs in the choice to use aggression. This perhaps also supports the principles of the Theory of Planned Behaviour (Ajzen, 1991) in which individuals act in line with intentions when attitudes and perceived social pressure are also consistent.

The results did not suggest the perpetrator group presented with greater aggressive beliefs than other groups, contrary to the hypothesis. Perpetrators did, however, present with a significantly lower expectation of harm and lower levels of fear. It may be that this low level of fear and lower expectation of harm prevents victimisation. That is, the victim and mutual perpetrator-victim may be hyper vigilant to conflict as a result of increased fear and expectation of harm and may, conversely, increase their vulnerability in the secure setting. This partly supports assertions made by Ireland (2005b) as to the importance of fear in these categories, although the current study observed fear as a moderator rather than a mediator. The perpetrators, low in neuroticism, may be calm and able to avoid victimisation. It may also be that low neuroticism in the not involved category is important to understanding the choice *not* to aggress.

Indeed the not involved group in the current study were most similar to the perpetrator group, reporting significantly lower levels of fear and expectation of harm which may explain their lack of reported aggression or victimisation. Where the not involved group differed to the perpetrators was their impression of the environment as positive. Thus it seems that the choice *not* to aggress may be determined by a combination of these factors (i.e., lower expectation of harm, lower neuroticism and overall positive impressions of the establishment combined with lower fear).

The results may lend some support to the I^3 framework (Slotter & Finkel, 2011) in terms of personality traits in the choice not to aggress. The not involved category showed lower levels of neuroticism, others have suggested lower levels of this personality trait may indicate increased self control (Jones et al, 2011). I^3 identifies self control as an influential inhibitory factor preventing aggression, thus the study may lend some support to this assertion. It is important to note, nevertheless, that personality was not a significant predictor of membership to this category and thus this appears to be a weak relationship requiring further examination.

The not involved group also held more positive views of the environment, perceiving this as predictable, supportive and collaborative, as predicted (Bierie, 2012; Dirkzwager & Kruttschnitt, 2012; Molleman & Leeuw, 2012). Interestingly the not involved subgroup was aligned with the staff sample in

this regard; with both groups reporting significantly greater positive impressions of the setting than the victim group. This indicates that those perceiving the environment as supportive are less likely to engage in or be subjected to aggression. Despite not being able to infer causation this is an important finding and has important implications for staff training and organisational policies to reduce violence.

Analysis of the staff sample indicated an association between the perceived threat of aggression and harm (expectation of aggression) and prosocial beliefs. This could suggest that staff believe it is a problem which needs to be addressed in a collaborative and reasoned manner. There was also an association with aggressive and prosocial beliefs which may indicate that staff also feel aggression can be beneficial in some situations. This is consistent with research in psychiatric secure settings where staff supported both the use of supportive intervention and coercive actions when necessary (Pulsford et al, 2013).

There were no observed sex differences according to either aggressive beliefs. This also contrasts to previous studies where women have been noted as less accepting of aggression than men (Archer, 2004). There were no significant differences of perceptions of the environment overall. This may be due, in part, to the negative environment subscale of the ESCQ not being replicated in the staff sample (Alpha .49). It appears that the exposure to

aggression is not influencing aggressive beliefs, as no association was noted between the two variables.

Previous research has cited mixed results in terms of the influence of age over attitudes and intervention approach (Craig, 2005; Farkas, 1999; Paboojan & Teske, 1997). The current study observed no relationships between age and/or length of service over attitudes or environmental perceptions. The most significant indicator of beliefs was exposure to aggression, correlating with prosocial beliefs. Some studies have suggested that overall experience can lead to a rehabilitative approach (Paboojan & Teske, 1997; Farkas, 1999). The current study suggests that greater experience or exposure to aggression is associated adoption of a rehabilitative approach (e.g., greater prosocial beliefs).

9.12   Limitations of this study

One limitation in the current study is the focus on only one emotion, fear. Measurement of other emotions such as anger, shame or embarrassment may have highlighted different mechanisms and interactions in addition to the observed role of fear over aggressive cognition.

The study also did not measure the extent to which participants may be exposed to aggression. As a result it is unclear whether the not involved

group are simply exposed to less aggression and thus report lower fear and positive impressions of the setting. It is difficult to ascertain whether the lower levels of fear and lower perception of threat lead to less exposure or vice versa. It is also important to note the not involved group represented the largest category, which differs to that typically found in similar studies (see Ireland, 2012 for a review).

Furthermore, the study design restricts the ability to infer causation. Adopting a longitudinal design would permit greater examination of the link between individual characteristics and perceptions of the environment. It may be that stable personality traits play a more direct role in shaping the perception of the environment, which could be directly examined using a longitudinal approach.

Finally, the study aimed to develop a model to explain the factors influencing the choice to aggress. Whilst the path analysis was non significant, there remains a need to try and develop a model to explain the choice to aggress in forensic settings that can be tested in future research. The next chapter will examine overall findings of the current research and integrate these with existing theoretical approaches to develop a model of intent to aggress in secure settings.

Chapter 10

GENERAL DISCUSSION

10.1   Structure of the chapter

This chapter discusses the themes arising from all three studies and presents a model based on the core findings. The chapter concludes with implications of the findings to clinical practice whilst also identifying core limitations before presenting opportunities for future research.

The thesis aimed to examine the influence of both individual factors and environmental characteristics in the intent to aggress. The discussion will attend first to the findings in relation to individual factors before evaluating the role of environmental aspects, concluding to propose a model to examine the choice to aggress in forensic settings; the Model of Intent to Aggress in Secure Settings (MIA-SS).

10.2   Discussion of overall findings

This thesis found direct relationships between aggression and both individual characteristics, such as cognition and personality, and environmental factors

such as expectation of threat and harm in the setting. In addition important findings were observed in terms of how aggression may be categorised and further examined.

Nature of aggression

The literature presented in Chapter two advocated distinguishing between direct and indirect aggression (Bandura, 1978; Bjorkqvist, 2001; Warren et al, 2011) but it was unclear if this was truly the case with forensic samples. The thesis contends that the direct-indirect distinction is an important concept. In line with past research in forensic settings (Ireland & Ireland, 2008), indirect was most frequently reported form of aggression in forensic settings across the three studies. This finding held for staff accounts of exposure/witnessing of prisoner aggression in study three, with verbal aggression being most frequently reported in study two.

Contrary to past research, however, no differences were observed on the individual characteristics measured for direct compared to indirect aggression when examined in study one; both forms of aggression had significant relationships with lower levels of agreeableness and conscientiousness and higher instrumental aggressive beliefs. This suggests that both direct and indirect aggression are underpinned by antagonism and impulsivity. This contradicts previous research arguing for indirect aggression

relating to impulsivity, low personal control and neuroticism (Richardson & Green, 2003; Warren et al, 2011). However past research was conducted with non-forensic samples and the thesis seems to point to an important distinction with forensic samples. That is, based on the current findings, it is argued that habitual aggressors (such as those in forensic settings) may be more likely to use many forms of aggression compared to general samples who may, given their less frequent use, adopt a preference for one particular form of aggression.

Nonetheless there remains support in terms of the influence of impulsivity in aggression. The thesis has found support for *both* indirect and direct aggression being underpinned by some degree of increased impulsivity. Impulsivity was captured by the five factor traits of conscientiousness, neuroticism and extraversion (Carver & Scheier, 2000; Jones et al, 2011; Miller et al, 2012), with conscientiousness in particular considered a measure of impulsivity (Lee & Egan, 2013).

In terms of the direct and indirect distinction, it is concluded that there is less value in forensic settings examining differences according to the nature of aggression used. In forensic settings it seems aggressors may choose the nature of aggression to fit the constraints of the environment rather than driven by stable individual characteristics. Theoretically this is consistent with the 'effect-danger ratio' of Bjorkqvist et al (1994) with aggressors choosing

the form of aggression with the least risk of detection whilst inflicting the most harm. This finding supports the assertion that this principle is of value with forensic settings (Ireland & Ireland, 2008). This also provides support for the interactions between situational and individual variables in the choice to aggress.

Personality and aggression in forensic settings

Returning to the findings in relation to personality, overall, the thesis found the greatest support for a relationship between lower agreeableness, lower conscientiousness and aggression. This is consistent with research conducted with general samples (e.g., Caprara, et al, 1994; Grumm & Collani, 2009; Jones, Miller & Lynam, 2011; Miller & Lynam, 2001; Miller, Zeichner & Wilson, 2012; Siebert et al, 2010) and partly consistent with the studies conducted with forensic samples (Lee & Egan, 2013; Skeem et al, 2005; Trninic et al, 2008; Zajenkowska et al, 2013). The differences between the thesis findings and past forensic research are perhaps most important to reflect on before examining the findings in greater detail.

In addition to lower agreeableness and conscientiousness, previous forensic studies have also found a relationship between aggression and high neuroticism (Skeem et al, 2005; Zajenkowska et al, 2013). Studies one and three found associations with neuroticism but these differed in each study,

with study one finding *high* neuroticism to relate to aggression and study three finding *low* neuroticism to relate to aggression; the latter contradicting all previous literature. In light of the wealth of past research supporting links with aggression and high neuroticism, it is proposed that the findings in study three reflect a unique observation to the sample. It may be for example that the sample in study three consisted of proactive aggressors as neuroticism is argued to be higher in reactive aggressors (Egan, 2009; Miller & Lynam, 2006).

Given the strength of association observed in past literature between high neuroticism and aggression (Bettencourt et al, 2006; Caprara et al, 1994; Grumm & Collani, 2009; Jones, Miller & Lynam, 2011; Miller & Lynam, 2001; Miller, Zeichner & Wilson, 2012; Siebert et al, 2010) the thesis will reflect primarily on the findings from study one.

An additional difference observed in the current thesis examination of personality relates to extraversion. The literature shows only weak support for a relationship between aggression and extraversion, with this shown to relate to aggression in a student sample but not among prisoners (Zajenkowska et al, 2013). The thesis found a positive relationship between extraversion and aggression in both studies one and three; indeed extraversion was a significant predictor of aggression in study three.

Taken together the findings of the thesis in relation to personality suggest that aggression in forensic settings is underpinned by stable traits of antagonism (low agreeableness), impulsivity (low conscientiousness), and emotional instability (high neuroticism). The relationships with these three traits and aggression are well understood and are outlined in Chapter four (section 4.3). The thesis has confirmed the similarities between general aggression and forensic settings in this regard. Where the thesis adds to the existing knowledge is in respect of associations with extraversion.

Whilst there is some theoretical and research support for an association with general antisocial behaviour and extraversion (Eysenck, 1996; Miller & Lynam, 2001), there is limited support for an association with extraversion and aggression. In fact it has been argued that incarceration may diminish traits of extraversion (Cale, 2006), which is in direct contrast to the current findings. The antisocial behaviour literature proposes that extraverts experience low arousal levels and crave stimulation from their environment, engaging in antisocial acts to satisfy this need. It is reasonable to assume this may be the mechanism by which extraversion has been shown to relate to aggression in the thesis research. However, the research supporting the arousal theory is said to be mixed (Cale, 2006) and therefore may not be sufficient to explain the relationship.

It is the contention of the thesis that the environment must be considered to understand this relationship. Past research has shown how the forensic setting can impact on personality functioning, with open social climates leading to increased positive interactions (Van de Helm et al, 2012). The concept of extraversion captures constructs such as assertiveness, excitement seeking, boldness and self confidence (McCrae & John, 1992).

It is proposed, based on the current findings that the trait of extraversion interacts with the forensic environment and manifests through aggression. That is, the forensic environment is a context in which aggression is commonplace and rewarded (Dobbs & Waid, 2005), and subjective norms support the use of this behaviour. Therefore an extraverted individual may use aggression, rather than assertiveness, to meet their needs in such a setting. Aggression may also serve to express the trait qualities of confidence in the forensic setting.

The thesis also proposes that the relationship between this adaptive trait and aggression may be viewed as less problematic than it might, if the influence of the environment is attended to. That is, if the influence of subjective norms which encourage the use of aggression are understood, judgements on the aggressor as 'bad' may be reduced (Brand & Anastasio, 2006; Reeder et al, 2002). As this would highlight the choice to use aggression is influenced not only by stable traits but also the norms held within the social context.

Although personality has been shown to be an important variable in study one and two, it is limited in its explanatory power. That is, whilst associations are found with personality and aggression, such associations are said to be descriptive in nature rather than explanatory (Cale, 2006; Miller & Lynam, 2001). Understanding of the mechanisms by which personality exerts an influence on aggression is needed.

This thesis thus adds to the understanding of the mechanisms linking personality and aggression by showing the role of cognition and perception of the environment. Miller and Lynam (2001) refer to the proximal and distal influence of personality on behaviour choice such as aggression. The thesis found strong support for the proximal influence of personality, through the interaction with cognition and the environment. Consistent with models such as the GAM (Anderson & Carnagey, 2004) and MMBSS (Ireland, 2012), this thesis found support for relationships between the stable traits of personality and dynamic factors of cognition and situational variables and aggression.

Relationships were also observed between personality, beliefs and perceptions of threat in the environment. Study three showed extraversion, conscientiousness and openness were negatively correlated whilst neuroticism was positively correlated with expectation of aggression and harm in the setting. This implies that lower self confidence, impulsiveness,

cautiousness and emotional instability lead an aggressor to expect aggression to occur frequently and perceive greater potential for harm.

Although causation cannot be inferred in the relationships between personality, environmental perceptions and aggression, the findings imply that stable individual characteristics such as personality may be one component in the choice to aggress in forensic settings. For example, the thesis indicates antagonism, a failure to evaluate consequences, assertiveness/self confidence and emotional instability may be *contributing* to the choice to aggress but these factors are not sufficient alone to explain the choice to aggress. It seems that these personality traits underpin engagement via the mechanisms specified above. This would be further consistent with theoretical models such as GAM who point to personality playing *a* role (Anderson & Carnagey, 2004).

Theoretically this also adds to Social Information Processing models (e.g., Crick & Dodge, 1994; Huesmann, 1998) where stable characteristics such as personality are perhaps attended to less than cognitions and supports the forensic models such as MMBSS (Ireland, 2012) and Bio-Psycho-Social model (Steinert & Whittington, 2013) which acknowledge the importance of such traits in explaining aggression use. However that is not to say the role of cognition is not important. Indeed the thesis found strong support for the relationship between cognition and aggression in forensic settings showing

perpetrators to hold greater aggressive beliefs than victims and those not involved.

Cognition and aggression in forensic settings

Both study one and study three found support for the role of cognition in the choice to aggress, with instrumental aggressive beliefs and general pro-aggressive beliefs being the strong predictors of aggression in both studies. This is further consistent with general theoretical frameworks such as Social Information Processing models (Huesmann, 1998; Lemerise & Arsenio, 2000) and GAM (Anderson & Carnagey, 2004) and research with both general and forensic samples (Archer & Haigh, 1997a; Archer & Graham-Kevan, 2003; Holland, Ireland & Muncer, 2009).

The thesis advances understanding in terms of the relative *contribution* of cognition over personality with both study one and three finding beliefs to be more significant than personality traits, consistent with a recent study (Hosie et al, 2014).

In addition the thesis has built on the understanding of the role of cognition, by also beginning to examine the role of emotion. General theoretical models outlined the influence of emotion over cognition, with emotion impairing

decision making and prompting accessibility of certain scripts (Anderson & Carnagey, 2004; Huesmann, 1998; Lemerise & Arsenio, 2000).

In terms of the forensic literature, fear has been argued to be an important emotion to examine (Ireland, 2005b). The final study found fear to moderate the relationship between high aggressive beliefs and aggression. The results demonstrated that fear increased the relationship between high aggressive cognition and engagement in aggression. This is an important finding as it shows to the importance of the interaction between traits such as beliefs and acute factors, such as fear. This is consistent with models such as MMBSS and supports more recent research showing an interaction between emotion and cognition in the choice to aggress (Bartlett & Anderson, 2012; Hosie et al, 2014).

The thesis has also furthered the understanding of cognition in respect of the 'not involved' category, those choosing not to use aggression or subject to victimisation. Study three examined aggressive *and* prosocial beliefs. As expected, the not involved group reported fewer aggressive beliefs, and therefore do not hold views supporting the use of aggression. Interestingly the not involved category was predicted by *lower* prosocial beliefs. This implies that their choice not to aggress is not driven by adaptive alternative approaches to resolving conflict as may be expected. This advances

understanding of this category when this is understood in combination with their perception of the setting.

In terms of their perception of the environment, the not involved group held higher positive and lower negative perceptions of the social and physical climate than other categories. That is, they held perceptions of the setting as caring and collaborative rather than hostile and crowded; with this group more aligned with the staff sample in this regard. However, neither of these aspects significantly contributed to the variance in the prediction of the category. Instead it was their perception of aggression and harm in the setting which was negatively associated with group membership and indeed predicted the not involved category membership. Those not involved also reported lower levels of fear than other groups. Thus whilst it appears from study three that the environment plays a greater part in the choice *not* to aggress, individual factors do remain important.

The forensic environment and aggression

Regarding the environment the thesis contends that evidence has been found for the influence of both the physical and social climate. Criminological literature has consistently examined the influence of the prison system on those housed within it (e.g., Allison & Ireland, 2010; Bierie, 2012; Feld, 1981; South & Wood, 2006; Walters, 2003). Deprivation (Goffman, 1961) and

Importation (Thomas, 1970) theories were initially thought to be competing theories, with the former believing the setting to be the greatest influence and the latter emphasising individual differences of prisoners. More recent research argues for a blending of these approaches (Lahm, 2008), which is supported by the current research. The thesis has identified elements of the physical and social environment impacting on the choice to aggress.

In terms of the physical environment, significant influences over staff attitudes were found, both to prisoners generally and toward aggression. Study two showed the secure setting to be more influential over pro-aggressive beliefs, more so than exposure to aggression from prisoners. This means that aspects of the secure setting have a greater influence over attitudes supportive of aggression and negative views of prisoners than exposure to aggression from prisoners.

This adds to the literature as the majority of studies have examined the impact of physical attributes over *prisoner* behaviour (Bierie, 2012; Cornaggia et al, 2011; Daffern & Howells, 2002; Farrington & Nutall, 1980; Flannery, 2005), the focus on *staff* highlights how the physical setting can also influence staff attitudes. Past research which has focused on staff attitudes suggests the more punitive the setting, the more negative attitudes towards prisoners expressed by staff (Kjelsberg et al, 2007).

Whilst causality cannot be inferred it must be noted that the frequency of aggression was greater in the secure setting where staff held greater negative attitudes towards prisoners and greater pro-aggressive attitudes. This is raised as previous research has asserted that attitudes permissive or accepting of aggression can lead to aggression increasing (Daffern & Howells, 2002; Ireland 2002). This appears to be supported by the current research, with lower frequency aggression recorded in the setting where the staff held lower pro-aggressive attitudes.

Importantly, more recent research has also shown greater order within the establishment (i.e., lower rates of aggression and misconduct, when officers are supportive in their approach, Dirkzwager and Kruttschnitt, 2012; Molleman & Leeuw, 2012). This assertion is partly supported by the findings of study two, with a preference for rehabilitation approaches relating to lesser exposure to aggression. Study three added to the findings of study two by also examining the perceptions of prisoners. Those not involved with aggression or victimisation were held greater views of the environment as supportive, collaborative and caring; thus implying that lower aggression is associated with such attitudes. Being more closely aligned with staff in this aspect than the other prisoner subgroups.

This offers important insights in the organisational management of aggression, with regards to training officers and also in supporting prisoners.

It is also important to note that victims of aggression were less likely to view the environment as supportive, collaborative and caring. This is consistent with past research (Alison & Ireland, 2012) and should inform staff training to support victims effectively by ensuring victims do indeed feel supported.

The current work further adds to the literature as previously the focus has been on staff individual differences such as sex or age (Paboojian & Teske, 1997; Craig, 2005). Overall mixed support for sex differences over attitudes was found. Study two found men to hold greater negative views of prisoners and greater pro-aggressive beliefs. No differences were observed in study three on beliefs, aside from men reporting greater exposure to aggression.

The thesis suggests that examination of staff attitudes should focus more on the *impact* of attitudes over their orientation or approach to dealing with aggression. Indeed, study two showed, in line with past research, that officers with lesser negative views of prisoners were more rehabilitative in their approach (Craig, 2005; Jacobs & Olitsky, 2004; Kjelsberg et al, 2007; Lambert, Hogan & Barton, 2002). Whilst causation cannot be inferred, the connection between negative attitudes and lesser preference for an adaptive response to aggression is of great importance. The implication of this is that staff who hold negative views of prisoners will be less inclined to use rehabilitative interventions.

Conversely study three found positive relationships between aggressive and pro-social beliefs. This implies that staff believe in aggression being both helpful to the aggressor whilst also believing in the importance of supporting individuals to prevent aggression, whilst this may seem counterintuitive this is consistent with literature in health settings (Jansen et al, 2006; Whittington & Higgins, 2002) which finds staff can hold both types of attitude.

The findings further showed that greater exposure to aggression correlated with greater pro-social beliefs. It may be inferred therefore from this that greater exposure to aggression led staff to be more rehabilitative in nature, seeking to understand the reasons behind aggression in order to reduce its occurrence, which is again consistent with the research conducted with health care professionals (Whittington & Higgins, 2002) and perhaps suggests similarities between prison and healthcare regarding aggression approaches. The findings were utilised to inform development of a model to better understand the choice to aggress and the choice to abstain from aggression in forensic settings, the Model of Intent to Aggress in Secure Settings (MIA-SS).

10.3   The model: Intent to aggress in secure settings

The following section will outline the model developed from the thesis research; critique the application of the model on the basis of past research

and theory, and, propose contributions the model can make to practice and future research.

The model captures the findings of the three studies and insights from theoretical frameworks underpinning the thesis in order to understand the choice to aggress. The model specifically outlines two pathways in the choice to aggress and one pathway depicting the factors influencing a choice to inhibit aggression. The model has been developed to assist in the understanding of aggression in secure settings and therefore to support reduction of aggression. Figure 10.1 outlines this, namely, the *Model of Intent to Aggress in Secure Settings* (MIA-SS).
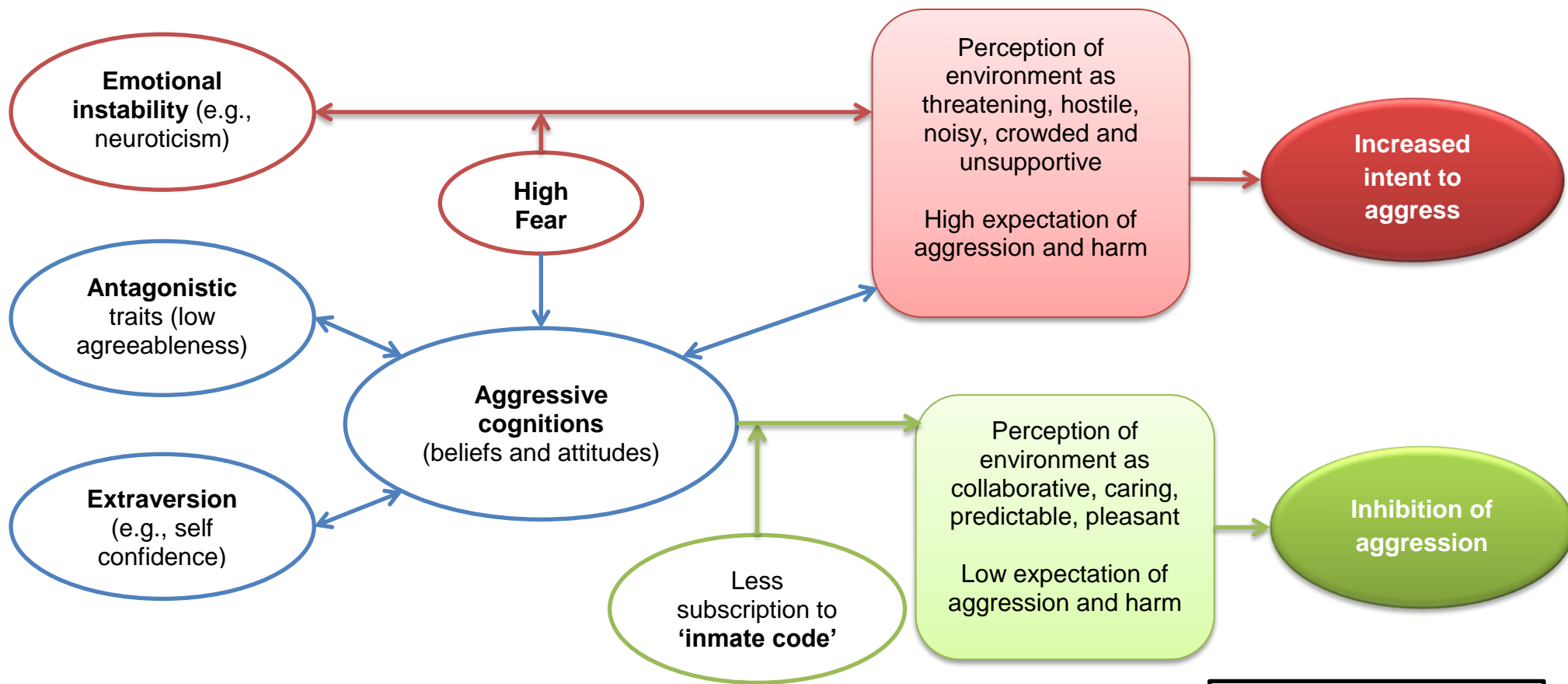
Figure 10.1: Model of Intent to Aggress in Secure Settings (MIA-SS)

Key -
Reactive pathway
Proactive pathway
Inhibition of aggression

As can be seen in Figure 10.1, the model contains individual *and* environmental factors. The findings of the thesis supported the role for both individual and environmental factors in the choice to use aggression. The MIA-SS therefore depicts the influence of individual and environmental factors in the intent to aggress; as the studies supported the direct link between both aspects and aggression. The MIA-SS depicts three pathways, a reactive aggression pathway, a proactive aggression pathway and an inhibition of aggression pathway. Explanation of the model and pathways follows.

The reactive aggression pathway begins with the stable characteristic of emotional instability (e.g., neuroticism). As has been outlined in the preceding discussion, the thesis accepts the finding from study one (high neuroticism associating with aggression) and rejects that observed in study three (high neuroticism relating only with victimisation). The rejection of study three is based on the wealth of past general and forensic research showing high neuroticism in aggressors (Caprara, Barbaranelli, Pastorelli, & Perugini, 1994; Egan & Lewis, 2011; Hernandez & Mauger, 1980; Miller & Lynam, 2001; Miller, Zeichner & Wilson, 2012; Sharpe & Desai, 2001; Siebert et al, 2010; Stanford, et al, 2003; Tremblay & Ewart, 2005).

The MIA-SS depicts a direct relationship neuroticism and aggression but also highlights a moderating variable. It is hypothesised that emotional instability will underpin the impression of the environment as uncaring and harsh.

However, fear is suggested to moderate this relationship, strengthening the influence of neuroticism over the perception of the environment as negative and strengthening the intent to aggress when fear is experienced (Ireland, 2005b; Ireland 2012). This is deemed to represent a reactive use of aggression as an aggressive response motivated by fear would typically serve to reduce or mitigate fear and thereby is more appropriately deemed a reactive aggressive act (Crick & Dodge, 1996). It is accepted however that aggression motivation is often mixed and thus whilst the primary aim may be to reduce fear, the individual may also wish to assert social status (Anderson & Bushman, 2002).

One of the strongest relationships observed in the thesis research was between aggression and expectation of threat and harm. This factor is included in the reactive and proactive aggression pathways. The perception of threat is felt to impact on and be influenced by the overall perception of the establishment as negative, hence the depiction as one concept in the MIA-SS. It was noted in the preceding discussion that the expectation of harm could be judged to be one component of the negative environment scale. However, the overall negative environment component captures more than threat and it is therefore judged significant and important to retain. The perception of the environment as negative captures elements of the physical (e.g., noisy and unpleasant setting) *and* social climate (e.g., uncaring and unpredictable) and a wealth of past research highlights the influence of both aspects (e.g., Alison & Ireland, 2012; Bierie, 2012; Cornaggia et al, 2011;

Day et al, 2012; Dirkzwager & Kruttschnitt, 2012; Flannery, 2005; Ireland, 2005b; Ireland, 2012; Molleman & Leeuw, 2012; Van de Helm, Stams, van Genabeek & van de Laan, 2012).

The second pathway represents the proactive pathway. Two stable traits are shown to contribute the instrumental use of aggression, extraversion and low levels of agreeableness. That is, traits of self confidence and antagonism are proposed to contribute to the choice to use aggression to meet ones needs. Individuals with a tendency for excitement seeking and a reduced desire for maintaining equitable relationships may use aggression in order to maintain their confidence and assert their status and needs.

In addition to stable traits, the proactive pathway shows the influence of aggressive cognition. This was shown in study one and three to have the strongest direct relationship with aggression. Beliefs and attitudes supportive of aggression are shown in the MIA-SS to influence and be influenced by stable personality traits of antagonism and extraversion. However, perhaps more importantly, fear is shown to moderate the impact of such cognitions. That is, the presence of fear will strengthen existing cognitions and contribute to a choice to aggress.

The proactive route is also influenced by perceptions of the environment as hostile and threatening. As with the influence of stable personality traits, aggressive cognitions are suggested to influence and be influenced by the

perception of the environment as hostile and expectations of threat and harm.

Conversely it is possible to hold aggressive cognitions and *not* act aggressively. Indeed no individual is aggressive every moment of every day. The MIA-SS therefore includes a third pathway representing the inhibition of aggression. The inhibition pathway indicates that low fear may increase the likelihood of the environment being perceived as collaborative and caring, leading to lesser expectation of threat/harm. This would lead to suppression of aggressive cognitions and stable personality traits typically supporting aggression.

The inhibition pathway also includes a variable thought to moderate the importance of environmental perceptions in those not involved in aggression. Past research shows the strong association between adoption of the inmate code and aggression (e.g., Paterline & Petersen, 1999; Shoham et al, 1989; South & Wood, 2006). It is therefore hypothesised in the inhibition pathway that lesser adoption of the inmate code influences lower expectation of aggression and harm and thus the choice not to engage in aggression. It is also hypothesised that the perception of the environment as positive will be strengthened by rejection of the inmate code. These relationships require further investigation.

The MIA-SS is at the first stage of development and will require further testing and examination. It is important to further examine possible variables contributing to the perception of threat in the environment. It is important to understand the factors which may lead those not involved to perceive the likelihood of aggression and harm to be low. One such example may be a measure of self control. Self control may need to be added to the MIA-SS on the basis that I^3 theory (Slotter & Finkel, 2011) proposes self control is an important inhibitory factor.

10.4   Limitations of the research

As with all applied research there are limitations with the research. First and foremost was the use of self report measures throughout all three studies. Self report measures whilst quick to administer are subject to bias, whether this relate to limits of insight or deliberate efforts to deceive the research. Furthermore it could be argued that self report measures struggle to accurately assess latent concepts such as attitude structure. The thesis was aware of such limitations from the outset and it was more important to begin to examine constructs shown to be relevant across a large sample before investigating individual aspects in more depth. That is, alternative measures such as observations of aggression or interviews to assess attitudes in more depth would restrict the sample size which can be achieved using self report methods.

Another limitation may relate to the use of different measures of personality, and of aggression. In terms of personality, study one employed a comprehensive measure containing 50 items (IPIP) compared to the measure in study three which consisted of only 10 items (TIPI). Both were selected due to their reliability but it may be that the different measures are responsible for the contrasting findings in respect of neuroticism.

Furthermore, study one and three failed to measure the possible motivation(s) for aggression. This may have permitted confirmation of the hypothesised reactive and proactive pathways in the MIA-SS. It may also have shown more meaningful relationships with aggression than examining the four categories. That is, a measure of aggression motivation may have revealed specific aspects to be more important to reactive compared to proactive aggression. Examination of the four categories assumes they act aggressively for similar reasons when in fact it is known that even within the categories there will be a multitude of motives for the use of aggression.

It is also important to consider the staff samples gathered in study two and three. Staff in study two were employed by HM Prison Service whilst staff in study three were employed in a private prison. Thus there may a range of factors influencing the findings such as differences across recruitment strategies, training courses and general experience in dealing with prisoners. This may therefore be a limitation, as this may have adversely effected the results obtained.

Finally, the generalizability of the findings is a potential limitation. The prisoner samples were all drawn from establishments housing category B adult men. It will be important to replicate the studies with more diverse adult men, female and younger adult samples to ascertain whether the findings do indeed generalise across forensic settings.

10.5   Implications of the research

The findings of the three studies contributed to the development of a model to explain the choice to aggress and inhibition of aggression. The findings and resultant model have important implications. First, the three studies and the MIA-SS emphasise importance of attending to *both* individual characteristics of those housed in forensic settings as well as environmental attributes when seeking to reduce the occurrence of aggression. Both from an organisational perspective and individual treatment planning, it is vital both elements are evaluated.

It would appear that environmental setting, where aggression is more commonplace has an impact over staff attitudes. The impact of this experience appears to lead to more negative views of prisoners and more pro-aggressive attitudes, which is perhaps concerning. The MMBSS (Ireland, 2012) is perhaps useful to apply at this juncture in that it is one of the few prison models developed and it stresses the influence of attitudes supportive of aggression in facilitating aggression. Therefore it seems likely that all

establishments, especially those more secure where aggression is more commonplace, need to reinforce the importance of not being tolerant of aggression. This may ensure that aggression is reduced.

Another important clinical implication of the work outlined here may relate to an additional framework by which to assess aggression. It seems that exploration of a five factor model of personality could add to existing risk assessments of aggression. The DSM-V advocates such an approach in the assessment of personality disorder (APA, 2013). It seems that the approach could be beneficial in better formulating individual aggression. That is, if an individual is assessed as low on agreeableness it may be this drives interpersonal conflict. This trait may underpin use of instrumental aggression through attempts to restore perceived inequalities in relationships. Thus efforts to enhance meaningful relationships with others may be an appropriate risk management strategy. Conversely if an assessment reveals high levels of neuroticism, their use of aggression may be more reactive in nature and emotional regulation may serve to reduce the risk of aggression.

10.6   Directions for future research

The MIA-SS is in the early stages of development but offers opportunities to understand the choice to aggress and the choice not to aggress. It will be important to examine the factors leading to those not involved to judge less threat and perception of harm in the setting than aggressors and victims.

This may be due to their lesser exposure but may, conversely, explain their non-involvement. If factors are identified as mediating the relationship between expectation of harm and non involvement, this will provide valuable knowledge to inform practice, such as violence reduction programmes.

Another area for future research is to further examine the extent to which neuroticism is observed in aggressors in secure settings. Future research could ask participants to rate their motivation for their use of aggression or could employ observation rating scales to monitor motivation for aggression. This could enable detailed analysis of the relationship between aggression and neuroticism in the forensic environment.

In fact it will be beneficial for future research to investigate the pathways in instrumental aggressors compared to reactive aggressors. It would perhaps be expected that the pathways may differ across individual characteristics, based on theoretical frameworks and past research. It will be important to examine whether differences exist among the environmental factors outlined in the MIA-SS according to aggression motivation.

Future research could also explore the link between personality and aggression in more detail, expanding exploration beyond the general personality factors. Future research may also want to adopt a longitudinal design to assess if beliefs towards aggression are subject to change within prison. For example, research demonstrates that mutual perpetrator-victims

act aggressively to prevent their own victimization. Thus it may be that their beliefs towards aggression change in the prison environment to reduce any dissonance with acting aggressively. Therefore a longitudinal research design could monitor any change in line with engagement with aggression. Such designs, if expanded beyond the focused number of variables listed in the current study, would also prove of assistance with any developed testing of the models of aggression in secure settings e.g., Multifactor Model of Bullying in Secure Settings (MMBSS; Ireland, 2012).

10.7   Final conclusion

The research has shown the importance of individual factors and environmental characteristics in the choice to aggress. Specifically personality traits, cognitions and emotions have been demonstrated to influence intent to aggress. These individual factors, however, only contribute to intent. Elements of the secure setting are equally important, with the thesis demonstrating expectation of threat and harm and perception of the environment as hostile and unsupportive also contribute to the choice to aggress.

The research conducted in this thesis has enabled the development of the Model of Intent to Aggress in Secure Settings (MIA-SS). The MIA-SS outlines factors important to consider in the intent to aggress *and* the choice not to aggress. The model provides opportunities to guide future research

and to guide organisational and individual approaches to the management and reduction of aggression in forensic settings.

REFERENCES

Ajzen, I. (1991) The theory of planned behaviour. *Organization Behaviour and Human Decision Processes, 50 (2)*, 179-211.

Ajzen, I (2005) *Attitudes, personality and behaviour* (2nd Edition). New York: Open University Press

Ajzen, I & Fishbein, M (1980) *Understanding attitudes and predicting social behaviour*. New Jersey: Prentice Hall.

Allison, M (2007) *Prison Environment Scale*. University of Central Lancashire. Unpublished Manuscript.

Allison, M. D & Ireland, J. L. (2010). Staff and prisoner perceptions of physical and social environmental factors thought to be supportive of bullying: The role of bullying and fear of bullying. *International Journal of Law and Psychiatry*. 33, 43 – 51.

Anderson C. A., & Bushman, B. J. (2002). Human aggression. *Annual Review of Psychology, 53*, 27 – 51.

Anderson, K.B & Graham, L.M (2007) Hostile attribution bias. In R. Baumeister, & K. Vohs (Eds.), *Encyclopedia of social psychology*. (pp. 446-448). Thousand Oaks, CA: SAGE Publications

Andrews, D.A & Bonta, J (2010) *The Psychology of Criminal Conduct* (5th Edition). New Jersey: Lexis Nexis Group

Antonius, D., Sinclair, S.J., Shiva, A.A., Messinger, J.W., Maile, J., Siefert, C.J., Belfi, B., Malaspina, D & Blais, M.A (2013) Assessing the heterogeneity of aggressive behaviour traits: Exploratory and confirmatory analyses of the reactive and proactive instrumental aggression Personality Assessment Inventory (PAI) scales. *Violence and Victims*, 28, 587-601.

Archer, J (1994) *Male Violence*. New York: Routledge.

Archer, J (2004) Sex differences in aggression in real world settings: A meta-analytic review. *Review of General Psychology*, 8 (4) 291-322.

Archer, J & Coyne, S.M (2005) An integrated review of indirect, relational

and social aggression. *Personality and Social Psychology Review*, 9, 213-230.

Archer, J & Haigh, A. M (1997a) Do beliefs about aggressive feelings and actions predict reported levels of aggression? *British Journal of Social Psychology*, 36, 83-106

Archer, J & Haigh, A. M (1997b) Beliefs about aggression among male and female prisoners. *Aggressive Behavior*, 23, 405-415

Archer, J & Southhall, N (2009) Does cost benefit analysis or self control predict involvement in bullying behaviour by male prisoners? *Aggressive Behavior*, 35, 31-40.

Babiak, P., Folino, J., Hancock, J., Hare, R.D., Logan, M., Mayer, E.L., Meloy, R.R.,Hakkanen-Nyholm, H., O'Toole, M.E., Pinizzotto, A., Porter, S., Smith, S & Woodworth, M (2012) Psychopathy: An important forensic concept for the 21st century. *FBI Law Enforcement Bulletin*, 81, 3-8.

Bandura, A (1978) Social Learning Theory of Aggression. *Journal of Communication*, 28(3), 12-29.

Baron, R.A & Byrne, D (2000) *Social Psychology* (9th Edition). London: Allyn and Bacon

Baron, R.A & Richardson, D. R (1994) *Human Aggression*. New York: Plenum Press

Bartlett, C.P & Anderson, C.A (2012) Direct and indirect relations between the big 5 personality traits and aggressive and violent behaviour. *Personality and Individual Differences*, 52, 870-875.

Berkowitz, L (1993) *Aggression: Its causes, consequences and control*. Philadelphia: Temple University Press.

Bierie, D.M (2012) Is tougher better? The impact of physical prison conditions on inmate violent. *International Journal of Offender Therapy and Comparative Criminology*, 56, 338-355.

Bjorkqvist, K (2001) Different names, same issue. *Social Development*, 10 (2) 272-274.

Bjorkqvist, K., Osterman, K., & Lagerspetz, K.M.J (1994) Sex differences in

covert aggression amongst adults. *Aggressive Behavior, 20,* 27-33.

Blackburn, R (1993) *The Psychology of Criminal Conduct: Theory, Research and Practice.* London: Wiley Publishers

Blair, R.J.R (2003) Neurobiological basis of psychopathy. *The British Journal of Psychiatry*, 182, 5-7.

Bobadilla, L., Wampler, M & Taylor, J (2012) Proactive and reactive aggression are associated with different physiological and personality profiles. *Journal of Social and Clinical Psychology*, 31(5), 458-487.

Bowers, L., Alexander, J., Bilgin, H., Bortha, M., Dack, C., James, K., Jarrett, M., Jeffery, D., Nijman, H., Owiti, J.A., Papadopoulos, C., Ross, J., Wright, S & Stewart, D (2014) Safewards: the empirical basis of the model and critical appraisal. *Journal of Psychiatric and Mental Health Nursing*, 21, 354-364.

Bowes, N & McMurran, M (2013) Cognitions supportive of violence and violent behaviour. *Aggression and Violent Behaviour*, 18, 660-665.

Brand, P.A & Anastasio, P.A (2006) Violence related attitudes and beliefs: Scale construction and psychometrics. *Journal of interpersonal Violence, 21*, 856-868.

Burke, H & Hart, S.D (2000) Personality disordered offenders: Conceptualisation, assessment and diagnosis of personality disorder. In S Hodgins & R Muller-Isberner (Eds) *Violence, Crime and Mentally Disordered Offenders: Concepts and methods for effective treatment and prevention.* London: Wiley Publishers.

Bushman, B.J & Anderson, C.A (2001) Is it time to pull the plug on the hostile versus instrumental aggression dichotomy. *Psychological Review*, 108, 273-279.

Bushman, B.J & Huesmann, R (2010) Aggression. In S.T. Fiske, D.L. Gilbert and G. Lindzey (Eds.) *Handbook of Social Psychology* (5th Edition, pp. 833-863). New York: Wiley and Sons.

Byrne, J.M & Stowell, J (2007) Examining the link between institutional and community violence: Towards a new cultural paradigm. *Aggression and Violent Behavior*, 12, 552-563.

Cale, E.M (2006) A quantitative review of the relations between the "Big 3" higher order personality dimensions and antisocial behaviour. *Journal of Research in Personality*, 40, 250-284.

Campbell, A., Muncer, S., McManus, I.C & Woodhouse, D (1999) Instrumental and expressive representations of aggression: one scale or two? *Aggressive Behavior*, 25, 435-444.

Caprara, G., Barbaranelli, C., Pastorelli, C & Perugini, M (1994) Individual differences in the study of human aggression. *Aggressive Behavior*, *20*: 291-303.

Carrasco, M., Barker, E.D., Tremblay, R.E & Vitaro, F (2006) Eysenck's personality dimensions as predictors of male adolescent trajectories of physical aggression, theft and vandalism. *Personality and Individual Differences*, 1309-1320

Card, N.A., Stucky, B.D., Sawalani, G.M & Little, T.D (2008) Direct and indirect aggression during childhood and adolescence: A meta-analytic review of gender differences, intercorrelations, and relations to maladjustment. *Child Development*, 79, 1185-1229.

Carver, C.S & Scheier, M.F (2000) *Perspectives on personality* (4th Edition). London: Allyn & Bacon.

Chan, J.P.K & Ireland, J.L (2009) Fear of bullying among adult and juvenile offenders: Its association with perpetration, victimization and behavioural predictors. *International Journal of Prisoner Health*, 5, 223-232.

Chen, P., Coccaro, E.F and Jacobson, K.C (2012) Hostile attribution bias, negative emotional responding, and aggression in adults: Moderating effects of gender and impulsivity. *Aggressive Behaviour*, 38, 47-63.

Cima, M., Raine, A., Meesters, C & Popma, A (2013) Validation of the Dutch Reactive Proactive Questionnaire (RPQ): Differential correlates of reactive and proactive aggression from childhood to adulthood. *Aggressive Behavior*, 39, 99-113.

Cohen, J. (1988). Statistical power analysis for the behavioral sciences (2nd edition). New Jersey: Lawrence Erlbaum.

Cooke, D.J & Johnstone (2010) Somewhere over the rainbow: Improving violence risk management in institutional settings. *International Journal of Forensic Mental Health*, 9, 150-158.

Cornaggia, C.M., Beghi, M., Pavone, F & Barale, F (2011) Aggression in Psychiatry wards: A systematic review. *Psychiatry Research*, 189, 10-20.

Costello, A.B & Osborne, J.W (2005) Best practices in exploratory factor analysis: Four recommendations for getting the most from your analysis. *Practical Assessment, Research and Evaluation*, 10 (7).

Craig, L.A (2005) The impact of training on attitudes towards sex offenders. *Journal of Sexual Aggression,* 11, 197-207.

Craig. L.A., Browne, K.D., Beech, A.R & Stringer, I (2006) Differences in personality and risk characteristics in sex, violent and general offenders. *Criminal Behaviour and Mental Health*, 16, 183-194.

Crawley, E (2004) *Doing prison work: The public and private lives of prison officers*. UK: Willan Publishing.

Crick, N.R & Dodge, K.A (1996) Social information processing mechanisms in reactive and proactive aggression. *Child Development*, 67, 993-1002.

Crick, N.R., Ostrov, J.E., & Werner, N.E (2006) A longitudinal study of relational aggression, physical aggression and children's social-psychological adjustment. *Journal of Abnormal Child Psychology*, 347 (2) 131-142.

Daffern, M & Howells, K (2002) Psychiatric inpatient aggression: A review of structural and functional assessment approaches. *Aggression and Violent Behavior*, 7, 477-497.

Daffern, M., Day, A and Cookson, A (2012) Implications for the prevention of aggressive behaviour within psychiatric hospitals drawn from interpersonal communication theory. *International Journal of Offender Therapy and Comparative Criminology*, 56, 401-419.

Daffern, M., Howells, K & Ogloff, J (2007) What's the point? Towards a

methodology for assessing the function of psychiatric inpatient aggression. *Behaviour Research and Therapy*, *45*, 101-111.

Daffern, M., Howells, K., Ogloff, J & Lee, J (2005) Individual characteristics predisposing patients to aggression in a forensic psychiatric hospital. The *Journal of Forensic Psychiatry and Psychology*, 16, 729-746.

Daffern, M., Mayer, M.M & Martin, T (2004) Environment contributors to aggression in two forensic psychiatric hospitals. *International Journal of Forensic Mental Health*, 3, 105-114.

Davey, L., Day, A & Howells, K (2005) Anger, over-control and serious violent offending. *Aggression and Violent Behavior*, 10, 624-635.

Day, A., Casey, S., Vess, J & Huisy, G (2012) Assessing the therapeutic climate of prisons. *Criminal Justice and Behaviour*, 39, 156-168.

De Castro, B.O., Veerman, J .W., Koops, W., Bosch, J.D., & Monshouwer, H.J (2002) Hostile Attribution of Intent and Aggressive Behaviour: A Meta-Analysis. *Child Development*, 73(3), 916-934.

Decuyper, M., De Bolle, M & De Fruyt, F (2011) General and maladaptive traits and anger in a combined forensic psychiatric and general population sample. *International Journal of Law and Psychiatry*, 34, 354-361.

DeLisi, M., Berg, M.T & Hochstetler, A (2004) Gang members, career crimonals and prison violence: Further specification of the importation model of inmate behaviour. *Criminal Justice Studies*, 17, 369-383.

DeVogel, V., De Ruiter, C., Bouman, Y. & De Vries Robbe, M (2009) *Structured Assessment of PROtective factors for violence risk (SAPROF): Guidelines for the assessment of protective factors for violence risk.* Utrecht, The Netherlands: Forum Educatief.

DeWall, C. N & Anderson, C.A (2011) The General Aggression Model. In M. Mikulincer & P. Shaver (Eds) *Human Aggression and Violence: Causes, Manifestations, and Consequences*. Washington, DC: APA.

Dhami, M.K., Ayton, P & Lowenstein, G (2007) Adaptation to imprisonment: Indigenous or imported? *Criminal Justice and Behavior*, 34, 1085-1100.

Dickens, G., Picchioni, M., & Long, C (2013) Aggression in specialist secure and forensic inpatient mental health care: incidence across care pathways. *Journal of Forensic Practice*, 15(3), 206 - 217

Dickens, G,. Piccirillo, M & Alderman, N (2013) Causes and management of aggression and violence in a forensic mental health service: Perspectives of nurses and patients. *International Journal of Mental Health Nursing*, 22, 532-544.

Dirkzwager, A.J.E & Kruttschnitt, C (2012) Prisoners perceptions of correctional officers behaviour in English and Dutch prisons. *Journal of Criminal Justice*, 40, 404-412.

Dodge, K.A & Rabiner, D.L (2004) Returning to roots: On social information processing and moral development. *Child Development*. 75(4) 1003-1008.

Dobbs, R.R & Waid, C.A (2005) Prison Culture. In M Bosworth (Ed.) *Encyclopedia of Prisons and Correctional Facilities*. Thousand Oaks, CA: Sage Publications.

Douglas, K.S, Hart, S.D., Webster, C.D & Belfrage, H (2013) HCR-20 Version 3: User Guide. Mental Health, Law, and Policy Institute: Simon Fraser University.

Dutton, D (1999) Traumatic origins of intimate rage. *Aggression and Violent Behaviour*, 4, 431-447.

Dutton, D.G & Karakanta, C (2013) Depression as a risk marker for aggression: A critical review. *Aggression and Violent Behaviour*, 18, 310-319.

Egan, V (2009) The Big Five: Neuroticism, Extraversion, Openness, Agreeableness and Conscientiousness as an organisational scheme for thinking about aggression and violence. In M McMurran & R.C Howard (Eds) *Personality, Personality Disorder and Violence*. Chichester: John Wiley & Sons.

Egan, V & Lewis, M (2011) Neuroticism and agreeableness differentiate emotional and narcissistic expressions of aggression. *Personality and Individual Differences*, 50, 845-850.

Ehrhart, M.G., Holcombe-Ehrhart, K., Roesch, S.C., Chung-Herrera, B.G., Nadler, K & Bradshaw, K (2009) Testing the latent factor structure and construct validity of the ten-item personality inventory. *Personality and Individual Differences,* 47, 900-905.

Enggist, S., Møller, L., Galea, G & Udesen, C (2014) *Prisons and Health*. Geneva: World Health Organisation.

Eysenck, H.J (1996) Personality theory and the problem of criminality. In J. Monroe & J. McLaughlin (Eds) *Criminological Perspectives: A Reader*. London: Sage Publications, pp81-98.

Eysenck, H.J & Eysenck, M.W (1985) *Personality and Individual Differences: A Natural Science Approach*. New York: Plenum Press.

Farkas, M.A (1999) Correctional officer attitudes towards inmates and working with inmates in a "get tough era". *Journal of Criminal Justice*, 27, 495-506.

Farrington, D.P & Nuttall, C.P (1980) Prison size, overcrowding, prison violence and recidivism. *Journal of Criminal Justice*, 8, 221-231.

Felthous, A.R., Weaver, D., Evans, R., Braik, S., Stanford, M.S., Johnson, R., Metzger, C., Bazile, A & Barratt, E (2009) Assessment of impulsive aggression in patients with severe mental disorders and demonstrated violence: Inter rater reliability of rating instrument. *Journal of Forensic Sciences*, 54, 1470-1474.

Ferguson, C.J & Dyck, D (2012) Paradigm change in aggression research: The time has come to retire the General Aggression Model. *Aggression and Violent Behaviour,* 17, 220-228.

Field, A (2009) *Discovering Statistics using SPSS* (3rd Edition). London: Sage Publications.

Flannery, R.B (2005) Precipitants to psychiatric patient assaults on staff: Review of empirical findings 1990-2003 and risk management implications. *Psychiatric Quarterly*, 76, 317-326.

Fluttert, F.A.J., Van Meijel, B., Van Leeuwen, M., Bjorkly, S., Nijman, H & Grypdonck, M (2011) The development of the forensic early warning signs of aggression inventory: Preliminary findings: Towards a better

management of inpatient aggression. *Archives of Psychiatric Nursing*, 25, 129-137.

Franklin, T.W., Franklin, C.A & Pratt, T.C (2006) Examining the empirical relationship between prison crowding and inmate misconduct: A meta-analysis of conflicting research results. *Journal of Criminal Justice*, 34, 401-412.

Gadon, L., Johnstone, L & Cooke, D (2006) Situational variables and institutional violence: A systematic review of the literature. *Clinical Psychology Review*, 26, 515-534.

Gardner, K.J., Archer, J & Jackson, S (2012) Does maladaptive coping mediate the relationship between borderline personality traits and reactive and proactive aggression. *Aggressive Behavior*, 38, 403-413.

Gilbert, F & Daffern, M (2011) Illuminating the relationship between personality disorder and violence: Contributions of the General Aggression Model. *Psychology of Violence*, 1(3), 230-244.

Gleason, K.A., Jensen-Campbell, L.A., & South-Richardson, D (2004) Agreeableness as a predictor of aggression in adolescents. *Aggressive Behavior, 30*: 43-61.

Goffman, E (1961) *Asylums.* New York: Anchor Books.

Goldberg L. R. (1990). An alternative "Description of personality": The Big-Five factor structure. *Journal of Personality and Social Psychology*, *59,* 1216-1229.

Goldberg, L. R., & Rosolack, T. K. (1994). The Big Five factor structure as an integrative framework: An empirical comparison with Eysenck's P-E-N model. In C. F Halverson, Jr., G. A Kohnstamm, & R. P Martin (Eds.), *The developing structure of temperament and personality from infancy to adulthood* (pp. 7 – 35). Hillsdale, NJ: Erlbaum.

Grumm, M & Collani, G.V (2009) Personality types and self reported aggressiveness. *Personality and Individual Differences*, 47, 845-850.

Hansen, A.L., Waage, L., Eid, J., Johnsen, B.H & Hart, S (2011) The

relationship between attachment, personality and antisocial tendencies in a prison sample: A pilot study. *Scandinavian Journal of Psychology*, 52, 268-276.

Helfritz-Sinville, L.E & Stanford, M.S (2014) Hostile attribution bias in impulsive and premeditated aggression. *Personality and Individual Differences*, 56, 45-50.

Hernandez, S.K & Mauger, P.A (1980) Assertiveness, aggressiveness and Eysenck's personality variables. *Personality and Individual Differences*, 1, 143-149.

Hochstetler, A & DeLisi, M (2005) Importation, deprivation and varieties of serving time: An integrated lifestyle exposure model of prison offending. *Journal of Criminal Justice*, 33, 257-266.

Holland, D., Ireland, J.L & Muncer, S (2009) Impulsivity, attribution and prison bullying: Bully category and perpetrator-victim mutuality. *International Journal of Law and Psychiatry*, 32, 84-91.

Homel, R & Thomas, C (2005) Causes and prevention of violence in prisons. In S O'Toole & S Eyland (Eds) *Corrections Criminology*. Sydney: Hawkins Press.

Hosie, J., Gilbert, F., Simpson, K & Daffern, M (2014) An examination of the relationship between personality and aggression using the general aggression and five factor models. *Aggressive Behaviour*, 40, 189-196.

Howitt, D & Cramer, D (2000) *An introduction to statistics in psychology: A complete students guide* (2nd Edition). London: Prentice Hall

Huesmann, L. R (1988) An information processing model for the development of Aggression. *Aggressive Behavior*, 14, 13–24.

Huesmann, L. R. (1998) The role of social information processing and cognitive schema in the acquisition and maintenance of habitual aggressive behaviour. In E. Donnerstein (Ed), *Human aggression: Theories, research, and implications for social policy*. San Diego: Academic Press.

Ilkiw-Lavalle, O., & Grenyer, B. (2003) Differences between patient and staff

perceptions of aggression in mental health units. *Psychiatric Services*, 54, 389-393

Ireland, J.L (2002) *Bullying among prisoners: Evidence, Research, and Intervention strategies*. London: Brunner Routledge.

Ireland, J. L. (2005a). Psychological health and bullying behavior among adolescent prisoners: A study of young and juvenile offenders. *Journal of Adolescent Health, 36,* 236-243.

Ireland, J. L. (2005b). *Bullying among prisoners: Innovations in research and theory*. London: Brunner Routledge.

Ireland, J. L. (2005c). *Direct and Indirect Prisoner behavior Checklist-Scaled version (DIPC-SCALED)*. University of Central Lancashire. Unpublished.

Ireland, J.L. (2011) Violence assessment and intervention. In Davey (Ed) *Introduction to Applied Psychology*. BPS Blackwell Publishing: London.

Ireland, J.L. (2011b) The importance of coping, threat appraisal and beliefs in understanding and responding to fear of victimization: Applications to a male prisoner sample. *Law and Human Behavior*, 35, 306 – 315

Ireland, J.L. (2012) Understanding bullying among younger prisoners: Recent research and introducing the Multifactor Model of Bullying in Secure Settings. *International Journal of Adolescent and Mental Health*, 24, 63-68

Ireland, J. L., & Archer, J. (2002). The perceived consequences of responding to bullying with aggression: A study of male and female adult prisoners. *Aggressive Behavior*, *28,* 257-272.

Ireland, J.L, Archer, J., & Power (2007) Differences between bullies and victims, and men and women, on aggression related variables among prisoners. *British Journal of Social Psychology, 46*: 299-322.

Ireland, J. L., & Ireland, C. L. (2008) Intra-group aggression among prisoners: Frequency of bullying and exploration of victim-perpetrator mutuality. *Aggressive Behavior, 34*: 76-87.

Ireland, J. L., & Ireland, C. A. (2011). Personality structure among prisoners:

How valid is the Five Factor Model and can it offer support for Eysenck's theory of criminality? *Criminal Behavior and Mental Health*, 21, 1, 35 – 50

Ireland, J. L., Ireland, C. A., & Birch, P. (2008). *Assessment, Treatment and Management of Violent and Sexual Offenders.* Willan: UK

Ireland, J. L., & Monaghan, R. (2006). Behaviors indicative of bullying among young and juvenile male offenders: A study of perpetrator and victim characteristics. *Aggressive Behavior*, *32*, 172-780.

Ireland, J.L & Murray, E.G (2005) Social problem solving and bullying: Are prison bullies really impaired problem solvers. In J.L Ireland (Ed) *Bullying among prisoners: Innovations in theory and research*. Hove, East Sussex: Brunner-Routledge.

Ireland, J. L., Power, C. P., Bramhall, S., Flowers, C. (2009). Developing an attitude towards bullying scale for prisoners: Structural analyses across adult men, young adults and women prisoners. *Criminal Behaviour and Mental Health*, 19, 28 – 42.

Ireland, J.L & Quinn, K (2007) Officer attitudes towards adult male prisoners who self harm: Development of an attitudinal measure and investigation of sex differences. *Aggressive Behavior*, 33, 63-72.

Jacobs, J.B & Olitsky, E (2004) Leadership and correctional reform. *Pace Law Review*, *24,* 477-495.

Jansen, G.J., Dassen, T.W., Burgerhof, J.G and Middel, B (2006) Psychiatric nurses' attitude towards inpatient aggression. Preliminary report of the Development of the Attitude Towards Aggression Scale (ATAS). *Aggressive Behavior*, 32, 44-53.

Jensen-Campbell, L.A., Knack, J. M., Waldrip, A. M., & Campbell, S. D. (2007). Do big five personality traits associated with self control influence the regulation of anger and aggression? *Journal of Research in Personality*, *41*, 403-424.

Jiang, S & Fisher-Giorlando, M (2002) Inmate misconduct: A test of the deprivation, importation and situational models*. The Prison Journal*, 82, 335-358.

Jones, S.E., Miller, J.D & Lynam, D.R (2011) Personality, antisocial behaviour and aggression: A meta analytic review. *Journal of Criminal Justice*, 39, 329-337.

Jurik, N.C (1985) Individual and organisational determinants of correctional officer attitudes towards inmates. *Criminology*, 23, 523-540.

Kifer, M., Hemmens, C & Stohr, M.K (2003) The goals of corrections: Perspectives from the line. *Criminal Justice Review*, 28:47-69.

Kinsella, N.S & Tinsley, P (2004) Causation and aggression. *The Quarterly Journal of Austrian Economics*, 7, 97-112.

Kjelsberg, E., Hilding-Skoglund, T & Rustad, A.B. (2007) Attitudes towards prisoners, as reported by prison inmates, prison employees and college students. *BMC Public Health*, *7*:71.

Kockler, T.R., Stanford, M.S., Meloy, J.R., Nelson, C.E & Sanford, K (2006) Characterising aggressive behaviour in a forensic population. *American Journal of Orthopsychiatry*, 76, 80-85.

Krahé, B (2013) *The Social Psychology of Aggression* (2nd Edition). East Sussex: Psychology Press.

Krug, E.G.,, Dahlberg, L.L., Mercy, J.A., Zwi, A.B & Lozano, R (2002) *World Report on Violence and Health*. Geneva: World Health Organisation.

Lahm, K.F (2008) Inmate on inmate assault: A multilevel examination of prison violence. *Criminal Justice and Behaviour*, 35, 120-137.

Lambert, E.G.,, Hogan, N.L & Barton, S.M (2002) Satisfied correctional staff. A review of the literature of the correlates of correctional staff job satisfaction. *Criminal Justice and Behaviour*, *29,* 115-143.

Large, M.M & Nielssen, O (2011) Violence in first-episode psychosis: A systematic review and meta analysis. *Schizophrenia Research*, 125, 209-220.

Lee, V & Egan, V (2013) Predictors of aggression in Southeast Asian female prisoners. Personality and Individual Differences, 54, 113-117.

Lemerise, E.A & Arsenio, W.F (2000) An integrated model of emotion processes and cognition in social information processing. *Child Development*, 71(1) 107-118

Lerner, M.J (1980) *Belief in a Just World: A Fundamental Decision*. New York: Plenum Press.

Lobbestael, J., Cima, M & Arntz, A (2013) The relationship between adult reactive and proactive aggression, hostile attribution bias and antisocial personality disorder. *Journal of Personality Disorders*, 27, 53-66.

Lim, L., Day, A & Casey, S (2011) Social cognitive processing in violent male offenders. *Psychiatry, Psychology and Law*, 18, 177-189.

Maio, G.R & Haddock, G (2010) *The Psychology of Attitudes and Attitude Change*. London: Sage Publications.

McGuire, J (1995) *What works: Reducing reoffending. Guidelines from research and practice*. Chichester: Wiley Publishers.

McGuire, J (2000) Explanations of criminal behaviour. In J McGuire, T Mason & A O'Kane (Eds) *Behaviour, Crime and Legal Processes*. London: John Wiley & Sons.

McNiel, D.E., Eisner, J.P & Binder, R.L (2003) The relationship between aggressive attributional style and violence by psychiatric patients. *Journal of Consulting and Clinical Psychology*, 7(2), 399-403.

Meloy, J.R (2006) Empirical basis and forensic application of affective and predatory violence. *Australian and New Zealand Journal of Psychiatry*, 40, 539-547

Melvin, K B., Gramling, L. K., and Gardner, W. M. (1985). A scale to measure attitudes towards prisoners. *Criminal Justice and Behaviour*, 12 (2), pp. 241 – 243.

Miller, J.D & Lynam, D.R (2001) Structural models of personality and their relation to antisocial behaviour: A meta-analytic review. *Criminology*, 39, 765-798

Miller, J.D & Lynam, D.R (2006) Reactive and proactive aggression: Similarities and differences. *Personality and Individual Differences*, 41, 1469-1480.

Miller, J.D., Zeichner, A & Wilson, L.F (2012) Personality correlates of

aggression: Evidence from measures of the five-factor model, UUPS model of impulsivity and BIS/BAS. *Journal of Interpersonal Violence*, 27(4), 2903-2919.

Moeller, F.G., Barratt, E.S., Dougherty, D.M., Schmitz, J.M & Swann, A.C (2001) Psychiatric aspects of impulsivity. *American Journal of Psychiatry*, 158, 1783-1793

Molleman, T & Leeuw, F.L (2012) The influence of prison staff on inmate conditions: A multilevel approach to staff and inmate surveys. *European Journal of Criminal Policy and Research*, 18, 217-233.

Mooney, J.L & Daffern, M (2011) Institutional aggression as a predictor of violent recidivism: Implications for parole decision making. *International Journal of Forensic Mental Health*, 10, 52-63.

Morgan, R (2002) Imprisonment: A brief history, the contemporary scene and likely prospects. In M Maguire, R Morgan & R Reiner (Eds) *The Oxford Handbook of Criminology* (3rd Edition). Oxford: Oxford University Press.

Murray-Close, D, Crick, N.R & Garlotti, K.M (2006) Children's moral reasoning regarding physical and relational aggression. *Social Development*, 15, 345-483

Needs (2009) *Environment and social climate questionnaire.* University of Portsmouth. Unpublished manuscript.

Nicholls, T.L., Brink, J., Greaves, C., Lussier, P., Verdun-Jones, S (2009) Forensic psychiatric inpatients and aggression: An exploration of incidence, prevalence, severity, and interventions by gender. *International Journal of Law and Psychiatry*, 32, 23-30.

Novaco, R.W (2011) Anger dysregulation: Driver of violent offending. *The Journal of Forensic Psychiatry and Psychology*, 22, 650-668.

Orobio de Castro, B (2004) The development of social information processing and aggressive behaviour: Current issues. *European Journal of Developmental Psychology*, 1, 87-102.

Paboojian, A & Teske, R.H.C (1997) Pre-service correctional officers: What

do they think about treatment? *Journal of Criminal Justice*, 25, 425-433.

Palmer, E.J (2005) The relationship between moral reasoning and aggression, and the implications for practice. *Psychology, Crime and Law*, 11, 353-361.

Palmer, E. J & Begum, A (2006). The relationship between moral reasoning, pro-victim attitudes, and interpersonal aggression among imprisoned young offenders. *International Journal of Offender Therapy and Comparative Criminology*, 50, 446-457.

Palmer, E.J & Thakordas, V (2005) Relationship between bullying and scores on the Buss-Perry Aggression questionnaire among imprisoned male offenders. *Aggressive Behaviour*, *31*: 56-66.

Papadopoulos, C., Ross, J., Stewart, D., Dack, C., James, K., Bowers, L (2012) The antecedents of violence and aggression within psychiatric inpatient settings. *Acta Psychiatrica Scandinavica*, 125, 425-439.

Parrott, D.J & Giancola, P.R (2007) Addressing the "criterion problem" in the assessment of aggressive behaviour: Development of a new taxonomic system. *Aggression and Violent Behaviour*, 12, 280-299.

Paterline, B.A & Petersen, D.M (1999) Structural and social psychological determinants of prisonization. *Journal of Criminal Justice*, 27, 427-441.

Paxton, J.M & Greene, J.D (2010) Moral reasoning: Hints and allegations. *Topics in Cognitive Science*, 1-17. DOI: 10.1111/j.1756-8765.2010.01096.x

Polaschek, D.L.L., Collie, R.M & Walkey, F (2004) Criminal attitudes to violence: Development and preliminary validation of a scale for male prisoners. *Aggressive Behavior*, 30, 484-503.

Polman, H., De Castro, B.O, Koops, W., Van Boxtel, H.W., & Merk, W.W (2007) A meta-analysis of the distinction between reactive and proactive aggression in children and adolescents. *Journal of Abnormal Child Psychology*, 35, 522-535.

Poulin, F & Boivin, M (2000) Reactive and proactive aggression: Evidence of

a two factor model. *Psychological Assessment*, 12, 115-122.

Pulsford, D., Crumpton, A., Baker, A., Wilkins, T., Wright, K & Duxbury, J (2013) Aggression in a high secure hospital: Staff and patient attitudes. *Journal of Psychiatric and Mental Health Nursing*, 20, 296-304.

Ramirez, J.M & Andreu, J.M (2006) Aggression and some related psychological constructs (anger, hostility and impulsivity) Some comments from a research project. *Neuroscience and Behavioural Reviews*, 30, 276-291.

Reeder, G.D., Kumar, S., Hesson-McInnis, M.S & Trafimow (2002) Inferences about the morality of an aggressor: The role of perceived motive. *Journal of Personality and Social Psychology*, 83, 789-803.

Reidy, D.E., Zeichner, A., Foster, J.D., & Martinez, M.A (2008) Effects of narcissistic entitlement and exploitativeness on human physical aggression. *Personality and Individual Differences*, 44, 865-875.

Richardson, D.S & Green L (2003) Defining direct and indirect aggression: The Richardson Conflict Response Questionnaire. *International Review of Social Psychology*, 16, 11–23.

Robertson, T., Daffern, M & Bucks, R.S (2012) Emotional regulation and aggression. *Aggression and Violent Behavior*, 17, 72-82

Seibert, L.A., Miller, J.D., Pryor, L.R., Reidy, D.E & Zeichner, A (2010) Personality and laboratory based aggression: Comparing the predictive power of the Five Factor Model (FFM), BIS/BAS and impulsivity across context. *Journal of Research in Personality*, 44, 13-21.

Sharpe, J.P & Desai, S (2001) The revised Neo personality inventory and MMPI-2 psychopathology five in the prediction of aggression. *Personality and Individual Differences*, *31*: 505-518.

Shoham, S.G., Askenasy, J.J.M., Rahav, G., Chard, F & Addi, A (1989) Social attitude correlates of violent prisoners. *Personality and Individual Differences*, 2, 147-153.

Skeem, , J.L., Miller, J.D., Mulvey, E., Tiemann, J & Monahan, J (2005)

Using a five factor lens to explore the relation between personality traits and violence in psychiatric patients. *Journal of Consulting and Clinical Psychology*, 73, 454-465.

Slotter, E.B & Finkel, E.J (2011) I³ theory: Instigating, impelling and inhibiting factors in aggression. In M. Mikulincer & P. Shaver (Eds) *Human Aggression and Violence: Causes, Manifestations, and Consequences*. Washington, DC: APA.

Smith, P & Waterman, M (2006) Self reported aggression and impulsivity in forensic and non-forensic populations: the role of gender and experiences. *Journal of   Family Violence*, 21, 425-437.

South, C.R & Wood, J (2006) Bullying in prisons: The importance of perceived social status, prisonization and moral disengagement. *Aggressive Behavior*, 32, 490-501.

Stanford, M.S., Houston, R.J., Villemarette-Pittman, N.R & Greve, K.W (2003) Premeditated aggression: Clinical assessment and cognitive psychophysiology. *Personality and Individual Differences*, 34, 773-781.

Steadman, J. A & Rogers, R (2013) Predictors of reactive and instrumental aggression in jail detainees: An initial examination. *Journal of Forensic Psychology Practice*, 13, 411-428.

Steinert, T & Whittington, R (2013) A bio-psycho-social model of violence related to mental health problems. *International Journal of Law and Psychiatry*, 36, 168-175.

Tabachnick, B. G., Fidell, L. S. (2007). *Using multivariate statistics* (5th Edition). Boston: Allyn & Bacon.

Thomas, C.W (1970) Toward a more inclusive model of inmate contraculture. *Criminology*, 8, 251-262.

Thomas, C.W & Foster, S.C (1973) The importation model perspective on inmate social roles: An empirical test. *The Sociological Quarterly*, 14, 226-234.

Trninic, Barancic and Nazor (2008) The five factor model of personality and aggressiveness in prisoners and athletes. *Kinesiology*, 40, 170-181.

Tremblay, P.F & Ewart, L.A (2005) The Buss-Perry Aggression Questionnaire and its relations to values, the big five, provoking hypothetical situations, alcohol consumption patterns and alcohol expectancies. *Personality and Individual Differences*, *38*: 337-346.

Turner, P & Ireland, J.L (2010) Do personality characteristics and beliefs about aggression predict intra-group aggression in prison settings? *Aggressive Behavior*, 36(4), 261-270.

Turner, P & Ireland, J.L (2011) Officer attitudes towards intra-group aggression in young people and young adults: Does the reported motivation of an aggressor impact on intervention and support? *International Journal of Law and Psychiatry,* 34, 309-316

Vaaler, A.E., Iversen, V.C., Morken, G, Flovig, J., Palmstierna, T & Linaker, O.M (2011) Short term prediction of threatening and violent behaviour in an acute psychiatric intensive care unit based on patient and environment characteristics. *BMC Psychiatry*, 11, 44.

Vaillancourt, T & Sunderani, S (2011) Psychopathy and indirect aggression: The roles of cortisol, sex and type of psychopathy. *Brain and Cognition*, 77, 170-175.

Van de Helm, P., Stams, G.J., van Genabeek, M & van der Laan, P (2012) Group climate, personality and self reported aggression in incarcerated male youth. *The Journal of Forensic Psychiatry and Psychology*, 23, 23-39.

Vitale, J.E., Newman, J.P., Serin, R.C & Bolt, D.M (2005) Hostile attributions in incarcerated male offenders: An exploration of diverse pathways. *Aggressive Behavior*, 31, 99-115.

Wallace, D.S., Paulson, R.M., Lord, C.G & Bond, C.M (2005) Which behaviours do attitudes predict? Meta analysing the effects of social pressure and perceived difficulty. *Review of General Psychology*, 9, 214-227.

Walters, G.D (2011) Criminal thinking as a mediator of the mental illness-

prison violence relationship: A path analytic study and causal mediation analysis. *Psychological Services*, 8, 189-199. doi: 10.1037/a0024684

Warren, G.C & Clarbour, J (2009) Relationship between Psychopathy and indirect aggression use in a noncriminal population. *Aggressive Behavior*, 35, 408-421.

Warren, P., Richardson, D.S & McQuillin, S (2011) Distinguishing among non-direct forms of aggression. *Aggressive Behavior*, 37, 291-301

Webster. C.D., Douglas, K. S., Eaves, D., & Hart, S. D. (1997). *HCR-20: Assessing risk for violence (version 2).* The Mental Health Law and Policy Institute, Simon Fraser University.

Wellford, C (1967) Factors associated with the adoption of the inmate code: A study of normative socialisation. *The Journal of Criminal Law, Criminology and Police Science*, 58, 197-203.

Welsh, E., Bader, S & Evans, S.E (2013) Situational variables related to aggression in institutional settings. *Aggression and Violent Behavior*, 18, 792-796.

Werner, N.E & Nixon, C.L (2005) Normative beliefs and relational aggression: An investigation of the cognitive bases of adolescent aggressive behaviour. *Journal of Youth and Aggression*, 34, 229-243.

Westaby, J.D (2005) Behavioural reasoning theory: Identifying new linkages underlying intentions and behaviour. *Organisational Behaviour and Human Decision Processes,* 98, 97-120.

Whittington, R (2002) Attitudes toward patient aggression amongst mental health nurses in the 'zero tolerance' era: associations with burnout and length of experience. *Journal of Clinical Nursing*, 11, 819-825.

Whittington, R & Higgins (2002) More than zero tolerance? Burnout and tolerance for patient aggression amongst mental health nurses in China and the UK. *Acta Psychiatrica Scandinavica*, 106, 37-40.

Wiklund, G., Ruchkin, V., Koposov, R.A,. Klinteberg, B.A (2014) Pro-bullying

attitudes among incarcerated juvenile delinquents: Antisocial behaviour, psychopathic tendencies and violent crime. *International Journal of Law and Psychiatry*, 24,

Woodworth, M & Porter, S (2002) In cold blood: Characteristics of criminal homicides as a function of psychopathy. *Journal of Abnormal Psychology*, 111, 436-445.

Zajenkowska, A., Jankowski, K.S., Lawrence, C & Zajenkowski, M (2013) Personality and individual differences in responses to aggression triggering events among prisoners and non-prisoners. *Personality and Individual Differences*, 55, 947-951.

Appendix 1

Questionnaires used in study one

Coversheet

I am a forensic psychologist in training and conducting a piece of research with the University of Central Lancashire in Preston. You are being invited to participate in a piece of research that will ask you to complete three questionnaires. The research is examining behaviour within prison and its link to your beliefs about prisons.

The questionnaires are for this research project only and will not be accessible to anyone other than the principal researcher and my supervisor (Professor Jane L. Ireland). Reports will be produced at the end of the study but these will report on findings from those who took part as a group. No one will be singled out. Engaging in this study will have no impact upon your personal period of imprisonment.

The questionnaires explore …

- **Your personal characteristics**
- **Behaviours you may have engaged in and/or experienced in the previous month, including your views about other behaviours that may take place.**
- **Beliefs you hold now**

If you do wish to engage in this research please be aware that all responses are anonymous and therefore you cannot be identified from your responses on the questionnaires. Do not put your name, number of cell on the questionnaires.

The questionnaires are estimated to take around 30 minutes to complete and will be collected by the researcher once you have completed them. You will be given an envelope into which you can place your completed questionnaire.

If any of these questionnaires cause you concern or upset you in anyway, I suggest that you speak to your personal officer in the first instance. Do remember that you do not have to engage in this research and thus if you do find the questionnaires upsetting please feel free not to complete them.

If you do have any questions about the research (e.g., queries with particular questions) please feel free to speak to the researcher.

You also have the right to withdraw from the research; you don't have to complete the questionnaires. Please be aware however, that once you have handed your questionnaire back completed, we will not be able to take you out of the research since the research is totally anonymous.

Thank you for your time and assistance in completing this questionnaire!

Contact details for the researcher are as follows: Polly Turner, Forensic Psychologist in Training, ℅ Jane L. Ireland, Psychology Department, University of Central Lancashire, Preston, Lancashire, PR1 2HE.

PLEASE ANSWER THE FOLLOWING QUESTIONS.

How long are you serving?

.............…………………………………..................

Please estimate the TOTAL length of time you have spent, throughout your lifetime, in a HM Prison/YOI (including the length of time you have served for your present sentence).

……………...

How old are you?

 ....…………………………………………

What offence are you serving for (main offence)?

 ....……………..

What is your ethnic origin (please circle)?

White   Asian or Asian British   Black or Black British   Chinese   Mixed

Other (please specify)..…………………………

Read the following behaviours and indicate how frequently each has happened to you in the PAST MONTH using the following scale:

0 = never   1 = rarely   2 = sometimes   3 = often   4 = always

We are interested in behaviours that occur <u>between prisoners</u>. There are some items that ask about behaviour between staff and prisoners but these will be clearly indicated (e.g., question 1 is an example of this). For questions where it is not indicated that we are interested in staff behaviour <u>please focus on your experiences/behaviour with other prisoners</u>.

	never	*rarely*	*sometimes*	*often*	*always*
1. I was told I did well at something by staff	0	1	2	3	4
2. I was shouted at by an officer	0	1	2	3	4
3. I was asked to bring drugs into the prison	0	1	2	3	4
4. I was hit or kicked by another prisoner	0	1	2	3	4
5. A prisoner physically threatened me with violence	0	1	2	3	4
6. I have been sent a 'shit parcel' from another prisoner	0	1	2	3	4
7. I was called names about my race or colour	0	1	2	3	4
8. I was called names about my offence or charge	0	1	2	3	4
9. I was called names about something else	0	1	2	3	4
10. I have been gossiped about	0	1	2	3	4
11. I have been deliberately pushed	0	1	2	3	4
12. I have had my property deliberately damaged	0	1	2	3	4
13. Someone has deliberately started a fight with me	0	1	2	3	4
14. I have been deliberately spat on by another prisoner	0	1	2	3	4
15. I have had my food deliberately spat on by another prisoner	0	1	2	3	4
16. I have stopped someone from bullying me	0	1	2	3	4
17. I have been told that I have to send another prisoner a postal order when I get out	0	1	2	3	4
18. I have been deliberately ignored	0	1	2	3	4
19. An officer talked to me about my bullying behaviour	0	1	2	3	4
20. I had some tobacco stolen	0	1	2	3	4

	never	rarely	sometimes	often	always
21. I had any property stolen by another prisoner	0	1	2	3	4
22. I have been forced to ask my family or friends to send money in for another prisoner	0	1	2	3	4
23. I have been forced to send out my private cash to another prisoner's family	0	1	2	3	4
24. I was offered drugs	0	1	2	3	4
25. Another prisoner has made fun of my family	0	1	2	3	4
26. Another prisoner has deliberately told me lies about a prison rule(s) to make me look stupid	0	1	2	3	4
27. I have been forced to keep something in my cell that has been stolen from another prisoner	0	1	2	3	4
28. I have been forced by another prisoner to lend them my phone card	0	1	2	3	4
29. I was protected by another prisoner	0	1	2	3	4
30. I was forced to sing out of my window	0	1	2	3	4
31. Someone has verbally abused me during the night by shouting at me	0	1	2	3	4
32. I lost my property through being taxed	0	1	2	3	4
33. I have made new friends	0	1	2	3	4
34. Another prisoner has forced me to get my family or friends to bring drugs in	0	1	2	3	4
35. I have been made to clean another prisoner's cell	0	1	2	3	4
36. I have been made to clean another prisoner's clothes	0	1	2	3	4
37. I have been forced to do other jobs/chores that belong to other prisoners	0	1	2	3	4
38. I have been helped with problems by an officer	0	1	2	3	4
39. I have been forced to swing a line to another cell	0	1	2	3	4
40. I was deliberately frightened by another prisoner	0	1	2	3	4
41. I have been sexually abused/assaulted	0	1	2	3	4
42. Someone has forced me to take drugs	0	1	2	3	4

43. Another prisoner forced me to give them the address of my family/partner	0	1	2	3	4

		never	rarely	sometimes	often	always
44. I have been sacked from a job or course by staff		0	1	2	3	4
45. I have been intimidated		0	1	2	3	4
46. I have had rumours spread about me		0	1	2	3	4
47. I have been deliberately given less food at dinnertime		0	1	2	3	4
48. I have been deliberately excluded by another prisoner(s) from an activity		0	1	2	3	4
49. A prisoner verbally abused my family		0	1	2	3	4
50. Someone has deliberately lied about me		0	1	2	3	4
51. I have been made to bully another prisoner for someone		0	1	2	3	4
52. I have been forced to carry drugs for another prisoner		0	1	2	3	4
53. I have been made fun of		0	1	2	3	4
54. I have been put on adjudication by staff		0	1	2	3	4
55. I have been forced to lie for someone		0	1	2	3	4
56. Someone has tried to turn other prisoners against me		0	1	2	3	4
57. Someone has deliberately insulted me		0	1	2	3	4
58. I have had a practical joke played on me		0	1	2	3	4
59. I have had a practical joke played on me that I didn't find funny		0	1	2	3	4
60. I have been verbally threatened by a prisoner		0	1	2	3	4
61. I have been sexually harassed		0	1	2	3	4
62. Another prisoner has forced me to swap some of my property with them		0	1	2	3	4
63. I have borrowed from others and must pay them back with 'interest'		0	1	2	3	4
64. I have been forced to buy canteen for someone		0	1	2	3	4
65. I have been forced to buy other goods for another prisoner		0	1	2	3	4

66. I have been forced to give my canteen to someone 	0 	1 	2 	3 	4

67. I have been forced to give other goods away for free 	0 	1 	2 	3 	4

Read the following behaviours and indicate how frequently you have done them in the <u>PAST MONTH</u> using the following scale:

0 = never   1 = rarely   2 = sometimes   3 = often   4 = always

Again, we are interested in behaviours that occur <u>between prisoners</u>. There are some items that ask about behaviour between staff and prisoners but these will be clearly indicated (e.g., question 3 is an example of this). For questions where it is not indicated that we are interested in staff behaviour <u>please focus on your experiences/behaviour with other prisoners</u>.

	never	*rarely*	*sometimes*	*often*	*always*
1. I have been to work or education	0	1	2	3	4
2. I have attended a course	0	1	2	3	4
3. I have refused an order from a member of staff	0	1	2	3	4
4. I have taxed another prisoner	0	1	2	3	4
5. I have forced someone to sing out of their window	0	1	2	3	4
6. I have forced another prisoner to ask their family or friends to send money in for me	0	1	2	3	4
7. I have forced another prisoner to send out their private cash to my family	0	1	2	3	4
8. I have deliberately damaged someone else's property	0	1	2	3	4
9. I have sent a 'shit parcel' to another prisoner	0	1	2	3	4
10. I have called someone names about their colour or race	0	1	2	3	4
11. I have called someone names about their offence or charge	0	1	2	3	4
12. I have called someone any other names	0	1	2	3	4
13. I have helped staff	0	1	2	3	4
14. I have deliberately pushed another prisoner	0	1	2	3	4
15. I have forced someone to take drugs	0	1	2	3	4
16. I have forced someone to lie for me	0	1	2	3	4
17. I have verbally abused another prisoners family	0	1	2	3	4
18. I have forced another prisoner to get their family or friends to bring drugs in	0	1	2	3	4
19. I have forced another prisoner to clean my cell	0	1	2	3	4

20. I have forced another prisoner to clean my clothes	0	1	2	3	4
	never	*rarely*	*sometimes*	*often*	*always*
21. I have forced another prisoner to do other jobs/chores that were mine	0	1	2	3	4
22. I have hit or kicked another prisoner	0	1	2	3	4
23. I have physically threatened another prisoner with violence	0	1	2	3	4
24. I have broken up a fight	0	1	2	3	4
25. I made another prisoner give me the address of their family/partner	0	1	2	3	4
26. I have intimidated someone	0	1	2	3	4
27. I have made another prisoner bully someone for me	0	1	2	3	4
28. I have forced another prisoner to carry drugs for me	0	1	2	3	4
29. I have helped a new prisoner on the wing	0	1	2	3	4
30. I have bought or sold any drugs	0	1	2	3	4
31. I have smoked cannabis	0	1	2	3	4
32. I have taken any drugs other than cannabis	0	1	2	3	4
33. I have injected any drugs	0	1	2	3	4
34. I have forced another prisoner to swing a line to another cell	0	1	2	3	4
35. I have spread rumours about someone	0	1	2	3	4
36. I have deliberately cut myself	0	1	2	3	4
37. I have deliberately spat on another prisoner	0	1	2	3	4
38. I have deliberately spat on another prisoner's food	0	1	2	3	4
39. I have deliberately ignored someone	0	1	2	3	4
40. I have threatened to harm myself	0	1	2	3	4
41. I have forced another prisoner to keep something in their cell that I have stolen from another prisoner	0	1	2	3	4
42. I have forced another prisoner to lend me their phone card	0	1	2	3	4

43. I have cried	0	1	2	3	4
44. I have stolen another prisoner's tobacco	0	1	2	3	4

	never	rarely	sometimes	often	always
45. I have stolen any other property from another prisoner	0	1	2	3	4
46. I have deliberately lied about someone	0	1	2	3	4
47. I have told another prisoner that they have to send me a postal order when they get out	0	1	2	3	4
48. I have made fun of another prisoner's family	0	1	2	3	4
49. I have deliberately told another prisoner lies about a prison rule(s) to make them look stupid	0	1	2	3	4
50. I have picked on another prisoner with my friends	0	1	2	3	4
51. I have been abusive to a member of staff	0	1	2	3	4
52. I have hit or kicked someone after they have called me names or taxed me	0	1	2	3	4
53. I have sexually abused/assaulted someone	0	1	2	3	4
54. I have tried to help someone with their problems	0	1	2	3	4
55. I have forced another prisoner to swap some of their property with me	0	1	2	3	4
56. I have tried to frighten another prisoner	0	1	2	3	4
57. I have gossiped about another prisoner	0	1	2	3	4
58. I have told an officer that I am being bullied	0	1	2	3	4
59. I have swung a line to another cell	0	1	2	3	4
60. I have verbally abused someone by shouting at them during the night	0	1	2	3	4
61. I have tried to get moved	0	1	2	3	4
62. I have defended myself against another prisoner	0	1	2	3	4
63. I have stayed in my cell when I could be out	0	1	2	3	4
64. I have deliberately started a fight	0	1	2	3	4
65. I have verbally threatened another prisoner	0	1	2	3	4

66. I have made fun of another prisoner	0	1	2	3	4
67. I have encouraged others to turn against another prisoner	0	1	2	3	4
68. I have deliberately insulted someone	0	1	2	3	4

	never	rarely	sometimes	often	always
69. I have played a practical joke on someone	0	1	2	3	4
70. I played a practical joke on someone who did not find it funny	0	1	2	3	4
71. I have sexually harassed someone	0	1	2	3	4
72. I have told a prisoner that I am being bullied	0	1	2	3	4
73. I have given items to others and asked them to pay me back with 'interest'	0	1	2	3	4
74. I have forced someone to buy me canteen	0	1	2	3	4
75. I have forced another prisoner to buy me other goods	0	1	2	3	4
76. I have forced someone to give me their canteen	0	1	2	3	4
77. I have forced another prisoner to give away other goods for free	0	1	2	3	4

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 Accurate	Moderately Inaccurate	Neither Inaccurate nor Accurate	Moderately Accurate	Very
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 Inaccurate nor Accurate	Moderately Accurate	Very Accurate
1	2	3	4	5

1	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

		Very Inaccurate	Moderately Inaccurate	Neither Inaccurate nor Accurate	Moderately Accurate	Very Accurate			
		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 center of attention.			1	2	3	4		5
42	Feel others' emotions.			1	2	3	4		5

		Very Inaccurate	Moderately Inaccurate	Neither Inaccurate nor Accurate	Moderately Accurate	Very Accurate
		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

Below are a number of statements. Following each statement, rate yourself according to the following scale in relation to how you would answer

1- Strongly disagree
2- Disagree somewhat
3- Neither agree nor disagree
4- Agree somewhat
5- Strongly agree

1. If I had hit someone and hurt them, I would feel that they were asking for it.   1 2 3
4   5

2. I believe that if I behaved aggressively, it would result from my losing   1 2 3
4   5
   self control.

3. If I were in a physical fight, I would feel out of control.   1 2 3 4 5

4. If I were in an argument, I would feel more annoyed with myself if   1 2 3 4 5
   I cried than if I hit the other person.

5. I believe that physical aggression is necessary to get through to some   1 2 3
4   5
   people.

6. If I was in a physical fight, I would feel drained and guilty afterwards.   1 2 3 4 5

7. I would be more likely to hit out physically if I were alone with the   1 2 3 4 5
   person who is annoying me than if we were in public.

8. The best thing about physical aggression is that it makes the other person   1 2 3 4 5
   get in line.

9. If I were in a heated argument, I would be most afraid of saying something   1 2 3 4 5
   terrible that I could never take back.

10. I would be most likely to get physically aggressive if I felt another person   1 2 3 4 5
    was trying to make me look like a jerk.

11. If I lashed out physically at another person, I would like them to make sure 1 2 3 4 5
    they never annoyed me again.

12. I would be most likely to get physically aggressive if I were under a lot   1 2 3 4 5
    of stress and some little thing pushed me over the edge.

13. If someone challenged me to a fight in public, I'd feel cowardly if I backed 1 2 3 4 5
    away.

14. If I had lashed out physically at another person, I would like them to   1 2 3 4 5
    acknowledge how upset they made me and how unhappy I was.

15. I would be more likely to hit out physically if another person showed me up 1 2 3 4 5
    in public than if they did so in private.

16. If I ever got to the point of physical aggression, the thing I would be most 1 2 3 4 5
    aware of is how upset and shaky I felt.

Title of research: Investigation of belief systems during periods of imprisonment:

Do prisoners adopt the 'inmate code' temporarily in relation to intra-group aggression?

Debrief Sheet

Thank you for participating in the research.

The study is examining the types of behaviours that occur within prisoners and the impact of 'prisonization' upon belief systems. This refers to a process by which individuals become to feel 'part' of prison life.

We all hold beliefs about the world and others in terms of how we expect and explain how we and others behave in social situations. Research tells us that when people observe acts of aggression within prison environments they make adjustments for the environment. For example if we witnessed a person being victimised outside of the prison environment we may feel sorry for the individual and feel that the person picking on them is being unfair and that we should intervene to help the victim. We might think that this is a one off situation and isn't typical of the world we live in. However if we witness the same thing happening in a prison we may think differently about it e.g., in prison you may feel that the individual has done something to deserve being victimised, that it happens all the time and that there is nothing we can do about it. Changing your beliefs when you come to prison, even temporarily, is felt to be related to the 'inmate' code.

This research is exploring the extent to which people do adopt the inmate code, thinking about 'pecking orders' and accepting violence and aggression as 'par for the course' whilst in prison. It is expected that some people will temporarily adjust their beliefs to cope with prison life whilst others will support the use of aggression both inside and outside the prison environment. It is expected that people who hold beliefs supportive of aggression outside the prison environment will also display specific personal characteristics that support aggression. Such people will be more likely to engage in acts of aggression towards others than those who adopt beliefs supportive of aggression only whilst in prison.

If you would like to know more about this topic or find out about the outcomes of this research please do not hesitate to contact the researcher [details below].

Polly Turner
Forensic Psychologist in Training
℅ Jane L. Ireland, Psychology Department, University of Central Lancashire
Preston
Lancashire
PR1 2HE.

If you have experienced any distress whilst completing the questionnaires please liaise with the prison staff for support.

Appendix 2

DIPC-Scaled items used for 'direct aggression' scale

Items From the DIPC-SCALED Used to construct the Direct Aggression (DA) Subscale (as per Archer & Southall, 2009)

1. I have deliberately pushed another prisoner
2. I have hit or kicked another prisoner
3. I have physically threatened another prisoner with violence
4. I have intimidated someone
5. I have deliberately spat on another prisoner
6. I have hit or kicked someone after they have called me names or taxed me
7. I have deliberately started a fight
8. I have verbally threatened another prisoner
9. I have verbally abused someone by shouting at them during the night
10. I have deliberately insulted someone
11. I have defended myself against another prisoner

Appendix 3

Questionnaires used in study two

Coversheet

I am a forensic psychologist in training and conducting a piece of research with the University of Central Lancashire. You are being invited to participate in a piece of research that will ask you to complete two questionnaires and read through a case example. The research is examining views and understanding of aggression.

The questionnaires are for this research project only and will not be accessible to anyone other than the principal researcher and my supervisor (Professor Jane L. Ireland). Reports will be produced at the end of the study but these will report on findings from entire group as a whole. No one will be singled out. Engaging or not engaging in this study will have no impact upon your employment.

The questionnaires explore …

- **Views of aggression and prisoners**
- **Reasons for aggression occurring**
- **Ways to manage and work with aggression**

If you do wish to engage in this research please be aware that all responses are anonymous and therefore you cannot be identified from your responses on the questionnaires. Do not put your name, staff number on the research.

The questionnaires are estimated to take around 30 minutes to complete and will be collected by the researcher once you have completed them. You will be given an envelope into which you can place your completed questionnaire.

If any of these questionnaires cause you concern or upset you in anyway, I suggest that you speak to your line manager/supervisor in the first instance. Do remember that you do not have to engage in this research and thus if you do find the questionnaires upsetting please feel free not to complete them.

If you do have any questions about the research (e.g., queries with particular questions) please feel free to speak to the researcher.

You also have the right to withdraw from the research; you don't have to complete the questionnaires. Please be aware however, that once you have handed your questionnaire back completed, we will not be able to take you out of the research since the research is totally anonymous.

Thank you for your time and assistance in completing this questionnaire!

Contact details for the researcher are as follows:
Polly Turner, Forensic Psychologist in Training
℅ Jane L. Ireland, Psychology Department, University of Central Lancashire,
Preston, Lancashire, PR1 2HE.

Questionnaires

1. **How old are you? …………………** (please state in years)

2. **Are you**   Male   **/**   Female   **(please circle)**

3. **How long have you worked as a prison officer? …………………..**

4. **What was your main reason for joining the prison service?**

   ……………………………………………………………………………………………
   ……………………………………………………………………………………………
   ……………………………………………………………………………………………

5. **Using the following scale, rate your experience of working with the following types of aggression within the establishment (either between young persons or from young persons towards officers) …**

   1 = Never
   2 = Yearly
   3 = Monthly
   4 = Weekly
   5 = Daily

	Never	Yearly	Monthly	Weekly	Daily
Spitting	1	2	3	4	5
Shouting / Swearing	1	2	3	4	5
Punching / Kicking	1	2	3	4	5
Physical fighting between young persons	1	2	3	4	5
Arguments between young persons	1	2	3	4	5
Gossiping / spreading rumours / ignoring	1	2	3	4	5

6. **How much contact do you have with young people / young adults per shift? (Please tick)**

   ☐ No contact at all during a shift

   ☐ ¼ of my shift

   ☐ ½ of my shift

   ☐ ¾ of my shift

   ☐ My entire shift

ATP scale

Please read the following statements and indicate the extent to which you agree or disagree with each statement. **Circle** the response which best demonstrates how much you agree with each statement using the following scale

5 = I strongly agree with this statement
4 = I agree with this statement
3 = Undecided about this statement
2 = I disagree with this statement
1 = I strongly disagree with this statement

	strongly Disagree	Disagree	Undecided	Agree	strongly Agree
Prisoners are different from most people	1	2	3	4	5
Only a few prisoners are really dangerous	1	2	3	4	5
Prisoners never change	1	2	3	4	5
Most prisoners are victims of circumstances and deserve to be helped	1	2	3	4	5
Prisoners have feelings like the rest of us	1	2	3	4	5
It is not wise to trust a prisoner too far	1	2	3	4	5
I think I would like a lot of prisoners	1	2	3	4	5
Bad prison conditions just make a prisoner more bitter	1	2	3	4	5
Give a prisoner an inch and he will take a mile	1	2	3	4	5
Most prisoners are stupid	1	2	3	4	5
Prisoners need affection and praise just like anybody else	1	2	3	4	5
You should not expect too much from a prisoner	1	2	3	4	5
Trying to rehabilitate prisoners is a waste of time and money	1	2	3	4	5
You never know when a prisoner is telling the truth	1	2	3	4	5
Prisoners are no better or worse than other people	1	2	3	4	5
You have to be constantly on your guard with prisoners	1	2	3	4	5
In general, prisoners think and act alike	1	2	3	4	5
If you give a prisoner respect, he will give you the same	1	2	3	4	5

	strongly Disagree	Disagree	Undecided	Agree	strongly Agree
Prisoners only think about themselves	1	2	3	4	5
There are some prisoners I would trust with my life	1	2	3	4	5
Prisoners will listen to reason	1	2	3	4	5
Most prisoners are too lazy to earn an honest living	1	2	3	4	5
I wouldn't mind living next door to an ex-prisoner	1	2	3	4	5
Prisoners are generally mean	1	2	3	4	5
Prisoners are always trying to get something out of somebody	1	2	3	4	5
The values of most prisoners are about the same as the rest of us	1	2	3	4	5
I would never want one of my children dating an ex-prisoner	1	2	3	4	5
Most prisoners have the capacity for love	1	2	3	4	5
Prisoners are basically immoral	1	2	3	4	5
Prisoners should be under strict, harsh discipline	1	2	3	4	5
In general, prisoners are basically bad people	1	2	3	4	5
Most prisoners can be rehabilitated	1	2	3	4	5
Some prisoners are quite nice people	1	2	3	4	5
I would like associating with some prisoners	1	2	3	4	5
Prisoners respect only brute force	1	2	3	4	5
If a person does well in prison, he should be let out on probation	1	2	3	4	5

**PLEASE READ THE FOLLOWING QUESTIONS CAREFULLY BEFORE ANSWERING.
THEY ASK YOU FOR <u>YOUR</u> VIEWS ON AGGRESSION <u>BETWEEN PRISONERS</u>**

Could you please show how much each statement applies to you by **Circling** the appropriate number where:

7 = I strongly agree with this statement.
6 = I agree with this statement.
5 = I agree mildly with this statement.
4 = Undecided about this statement.
3 = I disagree mildly with this statement.
2 = I disagree with this statement.
1 = I strongly disagree with this statement.

When the term 'prisoner' is used in this questionnaire, please think about the young people and young adults you currently work with at HMYOI …

With regard to prisoner aggression towards other prisoners …

		strongly disagree			undecided			strongly agree
1.	It's better to be an aggressor than a victim of aggression	1	2	3	4	5	6	7
2.	Victims usually enjoy being aggressed against	1	2	3	4	5	6	7
3.	Prisoners who are unable to look after themselves really annoy me	1	2	3	4	5	6	7
4.	I can't stand prisoners who keep running to staff when somebody picks on them	1	2	3	4	5	6	7
5.	Being aggressed against by other prisoners does some prisoners good	1	2	3	4	5	6	7
6.	It's OK for some prisoners to call some prisoners names	1	2	3	4	5	6	7
7.	Aggression would not happen if victims stood up for themselves more	1	2	3	4	5	6	7
8.	I wish prisoners could dominate other prisoners and get away with it	1	2	3	4	5	6	7
9.	It can be quite funny to see prisoners get upset when they are being tormented by others	1	2	3	4	5	6	7
10.	I despise victims	1	2	3	4	5	6	7
11.	Victims don't deserve to have friends here	1	2	3	4	5	6	7
12.	Prisoners who are weaker than others should be helped	1	2	3	4	5	6	7
13.	Aggression has a bad effect on the wing atmosphere	1	2	3	4	5	6	7
14.	I like it when someone stands up for prisoners who are being aggressed against	1	2	3	4	5	6	7
15.	It's a good thing to help prisoners who can't defend themselves	1	2	3	4	5	6	7

		strongly disagree			undecided			strongly agree
16.	It's OK for some prisoners to be hit by other prisoners	1	2	3	4	5	6	7
17.	Prisoners who can get away with aggression should be admired	1	2	3	4	5	6	7
18.	If a prisoner is going to let themselves be aggressed against, they deserve to be ridiculed	1	2	3	4	5	6	7
19.	Aggressors help to keep 'order' on the wing	1	2	3	4	5	6	7
20.	Victims ask to be aggressed against	1	2	3	4	5	6	7
21.	You shouldn't make fun of people who don't fight back	1	2	3	4	5	6	7
22.	Aggressive people are callous and care little about others	1	2	3	4	5	6	7
23.	It's OK for prisoners to spread rumours or to gossip about some prisoners	1	2	3	4	5	6	7
24.	Prisoners should not pick on someone who is weaker than them	1	2	3	4	5	6	7
25.	Victims should be helped	1	2	3	4	5	6	7
26.	Prisoners who are weak are just asking for trouble	1	2	3	4	5	6	7
27.	Aggressive prisoners are mentally stronger than other prisoners	1	2	3	4	5	6	7
28.	I wouldn't associate myself with prisoners who let themselves be pushed around	1	2	3	4	5	6	7
29.	It makes me angry when a prisoner is picked on without reason	1	2	3	4	5	6	7
30.	Prisoners who use aggression against others are childish	1	2	3	4	5	6	7
31.	Victims usually cause the aggression to happen	1	2	3	4	5	6	7
32.	I respect prisoners who can dominate others and get away with it	1	2	3	4	5	6	7
33.	Aggressive prisoners are skilled at controlling others	1	2	3	4	5	6	7
34.	Aggressive prisoners are physically stronger than other prisoners	1	2	3	4	5	6	7
35.	Once someone uses aggression, they are always going to use aggression	1	2	3	4	5	6	7
36.	Prisoners only report aggression to get attention from staff	1	2	3	4	5	6	7
37.	Prisoners only report aggression to get attention from other prisoners	1	2	3	4	5	6	7
38.	Prisoners who don't fit in deserve to be aggressed against	1	2	3	4	5	6	7
39.	Victims can't be helped	1	2	3	4	5	6	7

Please read the following case example and answer the questions afterwards.

Steven	[Instrumental]*

Background
Steven has received a two year custodial sentence for a violent offence, namely robbery. Steven has never been in custody before but has committed a number of previous offences, predominantly theft offences with more recent acts of robbery. Steven has been in the care system from a young age, when his mother felt she could no longer care for him. Steven reports learning he had to look out for himself as he could not rely upon others for this.

The incident
It is alleged that Steven has been obtaining goods from other young people in the establishment. The reported information suggests that Steven has been threatening physical violence if he does not obtain the goods he requests and his peers feel intimidated by Steven. It appears that Steven plans and looks for opportunities to aggress towards others in order to acquire status.

Based on the incident above please answer the following questions

1. Which of the following reasons (listed below) do you feel might <u>BEST</u> explain the reason for Steven's aggression in the incident detailed above?

   Please place the following options in order from 1 to 8, of the options you feel may <u>best</u> explain Steven's aggressive behaviour where **1** = BEST option and **8** = the LEAST appropriate option.

   ____   Steven uses aggression to force others to give him goods

   ____   Steven is trying to remove/reduce demands placed upon him from others through use of aggression

   ____   Steven is simply expressing anger/other emotions

   ____   Steven is trying to reduce physiological tension (tension arising from physical arousal to aggression)

   ____   Steven is seeking attention from peers/staff (to reduce social distance from others)

   ____   Steven wants to increase social status/approval from others

   ____   Steven is mentally unwell

   ____   Steven enjoys using aggression to watch others (the victims of aggression) suffering

---

* I have highlighted the motivation for aggression for the purposes of the thesis – this was <u>not</u> be noted on questionnaires distributed to participants

2.   Which of the following strategies (listed below) do you feel is appropriate in this situation?

Please rate each of the options as to how appropriate you feel each option would be in this situation using the following scale …

5 = VERY appropriate intervention
4 = A useful intervention
3 = Unsure
2 = Not a useful intervention
1 = VERY inappropriate intervention

	Very Inappropriate	Not Useful	Unsure	Useful	Very appropriate
No intervention is necessary; aggression always occurs in this environment	1	2	3	4	5
Remove the victims from the wing	1	2	3	4	5
Talk to Steven and try to find out why he is acting in this way	1	2	3	4	5
Remove Steven from the wing	1	2	3	4	5
Place Steven on increased observations	1	2	3	4	5
Create an action plan with Steven to help him to reduce this aggression; look at what he gains from aggression and find non-aggressive ways to achieve these gains	1	2	3	4	5
Remove Stevens privileges	1	2	3	4	5
Recommend Steven attends a treatment programme to address his aggression	1	2	3	4	5
Discuss the case with your line manager or peers and consider why Steven is acting this way	1	2	3	4	5
Organise a meeting with Steven and the victims and encourage all to remain friends	1	2	3	4	5
Ensure violence reduction posters are visible on the wing and remind all young persons that aggression will not be tolerated from anyone	1	2	3	4	5

Please read the following case example and answer the questions afterwards.

Steven   [Reactive]*

Background
Steven has received a two year custodial sentence for a violent offence, namely robbery. Steven has never been in custody before but has committed a number of previous offences, predominantly theft offences with more recent acts of robbery. Steven has been in the care system from a young age, when his mother felt she could no longer care for him. Steven reports learning he had to look out for himself as he could not rely upon others for this.

The incident
It is alleged that Steven has been physically and verbally aggressive towards other young people in the establishment. The reported information suggests that Steven has been threatening physical violence and his peers feel intimidated by Steven. It would appear Steven does this during times of stress and when he feels angry.

Based on the incident above please answer the following questions

1. Which of the following reasons (listed below) do you feel might <u>BEST</u> explain the reason for Stevens aggression?

Please place the following options in order from 1 to 8, of the options you feel may <u>best</u> explain Steven's aggressive behaviour where **1** = BEST option and **8** = the LEAST appropriate option.

___   Steven uses aggression to force others to give him goods

___   Steven is trying to remove/reduce demands placed upon him from others through use of aggression

___   Steven is simply expressing anger/other emotions

___   Steven is trying to reduce physiodical tension (tension arising from physical arousal to aggression)

___   Steven is seeking attention from peers/staff (to reduce social distance from others)

___   Steven wants to increase social status/approval from others

___   Steven is mentally unwell

___   Steven enjoys using aggression to watch others (the victims of aggression) suffering

* I have highlighted the motivation for aggression for the purposes of the thesis – this was <u>not</u> be noted on questionnaires distributed to participants

2. Of the following strategies (listed below) rate how appropriate each would be in this situation
using the following scale …

5 = Very appropriate
4 = Useful
3 = Unsure
2 = Not useful
1 = Very inappriate

	Very Inappropriate	Not useful	Unsure	Useful	Very Appropriate
No intervention is necessary; aggression always occurs in this environment	1	2	3	4	5
Remove the victims from the wing	1	2	3	4	5
Talk to Steven and try to find out why he is acting in this way	1	2	3	4	5
Remove Steven from the wing	1	2	3	4	5
Place Steven on increased observations	1	2	3	4	5
Create an action plan with Steven to help him to reduce this aggression; look at what he gains from aggression and find non-aggressive ways to achieve these gains	1	2	3	4	5
Remove Stevens privileges	1	2	3	4	5
Recommend Steven attends a treatment programme to address his aggression	1	2	3	4	5
Discuss the case with your line manager or peers and consider why Steven is acting this way	1	2	3	4	5
Organise a meeting with Steven and the victims and encourage all to remain friends	1	2	3	4	5
Ensure violence reduction posters are visible on the wing and remind all young persons that aggression will not be tolerated from anyone	1	2	3	4	5

Officer attitudes towards intra-group aggression in young people and young adults – Does the reported motivation of an aggressor impact on intervention and support?

Debrief Sheet

Thank you for participating in the research.

The study is examining attitudes towards aggression and how such attitudes might correlate with understanding of why aggression occurs and views of how aggression should be dealt with/managed.

The research base informs us that general attitudes (attitudes we hold about the world as a whole) can and do differ to context specific attitudes (attitudes we hold about specific places or situations e.g., aggression between young persons). For example we might believe, generally, that aggression is not appropriate. However if we work in a setting where aggression occurs frequently then we might adopt 'context specific' attitudes; believing it happens in some environments but not in others. Research shows that context specific attitudes can influence and change our general views if we are exposed to situations frequently (e.g., if we observe aggression regularly general attitudes might change and become more supportive of aggression).

This research is exploring the extent to which general attitudes towards prisoners and context specific attitudes (views about aggression occurring in prison) can influence understanding of the reasons for aggression and support offered to those involved.

It is expected that individuals with higher positive general attitudes towards prisoners (e.g., prisoners are no different to anyone else and are capable of change) will focus more on supportive approaches towards those involved, will be more likely to correctly identify the reason for the aggression in order to help to rehabilitate prisoners. It is further expected that the attitudes held (in relation to aggression in prison) will depend on factors such as their experience in the prison setting.

If you would like to know more about this topic or find out about the outcomes of this research please do not hesitate to contact the researcher [details below].

Polly Turner
Forensic Psychologist in Training
℅ Jane L. Ireland, Psychology Department, University of Central Lancashire
Preston, Lancashire, PR1 2HE.

If you have experienced any distress whilst completing the questionnaires please liaise with your line manager/supervisor for support in the first instance.

Appendix 4

Questionnaires used in study three

Questionnaire pack 1: PRISONER

Cover sheet

I am a forensic psychologist and conducting a piece of research with the University of Central Lancashire in Preston. You are being invited to participate in a piece of research that will ask you to complete 5 questionnaires. The research is examining behaviour within prison and your perceptions of this behaviour and the prison environment. The research is also interested in how this may relate to personal characteristics (e.g., personality).

The questionnaires are for this research project only and will not be accessible to anyone other than persons with a legitimate professional need (e.g., researcher and supervisor). Reports will be produced at the end of the study but these will report on findings from entire group as a whole. No one will be singled out. Engaging or not engaging in this study will have no impact upon your personal period of imprisonment.

The questionnaires explore …
- **Your personal characteristics**
- **Behaviours you may have engaged in and/or experienced in the previous month**
- **Your perceptions of aggression and the social and physical environment**
- **Your opinions about the causes of aggression in prison**

If you do wish to engage in this research please be aware that all responses are anonymous and therefore you cannot be identified from your responses on the questionnaires. Do <u>not</u> put your name, number of cell on the questionnaires.

The questionnaires are estimated to take around 30-45 minutes to complete and will be collected by the researcher once you have completed them. You will be given an envelope into which you can place your completed questionnaire.

If any of these questionnaires cause you concern or upset you in anyway, I suggest that you speak to your personal officer in the first instance. Do remember that you do not have to engage in this research and thus if you do find the questionnaires upsetting please feel free not to complete them. You may also wish to seek support from other services (e.g., the prison listener scheme) further information can be found on the wing notice boards.

You also have the right to withdraw from the research; you don't have to complete the questionnaires. Please be aware however, that once you have handed your questionnaire back completed, we will not be able to take you out of the research since the research is totally anonymous. If you do have any questions about the research (e.g., queries with particular questions) please feel free to speak to the researcher.

Thank you for your time and assistance in completing this questionnaire!

Contact details for the researcher are as follows: Polly Turner, Forensic Psychologist ,% Jane L. Ireland, Psychology Department, University of Central Lancashire, Preston, Lancashire, PR1 2HE.

PLEASE ANSWER THE FOLLOWING QUESTIONS.

How long are you serving?

 ....……………………………………..................

Please estimate the TOTAL length of time you have spent, throughout your lifetime, in a HM Prison/YOI (including the length of time you have served for your present sentence)

…...

How old are you? ....…………………

What offence are you serving for (main offence)?

 ....……………..

What is your ethnic origin (please circle)?

White   Asian or Asian British   Black or Black British   Chinese   Mixed

  Other (please specify)...........................……………………

This form asks you about two things.....

1. Things that have happened to you in the <u>PAST</u> month.

2. Things you have done in the <u>PAST</u> month.

Please answer all questions as honestly as possible - you will not be identified on the form. All replies are completely anonymous.

1. Think back over the <u>PAST MONTH</u> and put a tick in the box against the things that <u>have happened to you.</u>

1. [___] I was hit or kicked by another prisoner

2. [___] A prisoner physically threatened me with violence

3. [___] I have been sent a 'shit parcel' from another prisoner

4. [___] I was called names about my race or colour

5. [___] I was called names about my offence or charge

6. [___] I was called names about something else

7. [___] I have been gossiped about

8. [___] I have been deliberately pushed

9. [___] I have had my property deliberately damaged

10. [___] Someone has deliberately started a fight with me

11. [___] I have been deliberately spat on by another prisoner

12. [___] I have had my food deliberately spat on by another prisoner

13. [___] I have been told that I have to send another prisoner a postal order when I get out

14. [___] I have been deliberately ignored

15. [___] I had some tobacco stolen

16. [___] I had any property stolen by another prisoner

17. [___] I have been forced to ask my family or friends to send money in for another prisoner

18. [___] I have been forced to send out my private cash to another prisoner's family

19. [___] Another prisoner has made fun of my family

20. [___] Another prisoner has deliberately told me lies about a prison rule(s) to make me
look stupid

21. [___] I have been forced by another prisoner to lend them my phone card

22. [___] I was forced to sing out of my window

23. [___] Someone has verbally abused me during the night by shouting at me

24. [___] I lost my property through being taxed

25. [___] I was deliberately frightened by another prisoner

26. [___] I have been sexually abused/assaulted

27. [___] Someone has forced me to take drugs

28. [___] I have been intimidated

29. [___] I have had rumours spread about me

30. [___] I have been deliberately given less food at dinnertime

31. [___] I have been deliberately excluded by another prisoner(s) from an activity

32. [___] A prisoner verbally abused my family

33. [___] Someone has deliberately lied about me

34. [___] I have been made fun of

35. [___] I have been forced to lie for someone

36. [___] Someone has tried to turn other prisoners against me

37. [___] Someone has deliberately insulted me

38. [___] I have had a practical joke played on me

39. [___] I have had a practical joke played on me that I didn't find funny

40. [___] I have been verbally threatened by a prisoner

41. [___] I have been sexually harassed

42. [___] Another prisoner has forced me to swap some of my property with them

43. [___] I have borrowed from others and must pay them back with 'interest'

44. [___] I have been forced to buy canteen for someone

45. [___] I have been forced to buy other goods for another prisoner

46. [___] I have been forced to give my canteen to someone

47. [___] I have been forced to give other goods away for free

2. Think back over the <u>PAST MONTH</u> and put a tick in the box against the things that <u>you have done.</u>

1. [___] I have taxed another prisoner

2. [___] I have forced someone to sing out of their window

3. [___] I have forced another prisoner to ask their family or friends to send money in for me

4. [___] I have forced another prisoner to send out their private cash to my family

5. [___] I have deliberately damaged someone else's property

6. [___] I have sent a 'shit parcel' to another prisoner

7. [___] I have called someone names about their colour or race

8. [___] I have called someone names about their offence or charge

9. [___] I have called someone any other names

10. [___] I have deliberately pushed another prisoner

11. [___] I have forced someone to take drugs

12. [___] I have forced someone to lie for me

13. [___] I have verbally abused another prisoners family

14. [___] I have hit or kicked another prisoner

15. [___] I have physically threatened another prisoner with violence

16. [___] I have intimidated someone

17. [___] I have spread rumours about someone

18. [___] I have deliberately spat on another prisoner

19. [___] I have deliberately spat on another prisoner's food

20. [___] I have deliberately ignored someone

21. [___] I have forced another prisoner to lend me their phone card

22. [___] I have stolen another prisoners tobacco

23. [___] I have stolen any other property from another prisoner

24. [____] I have deliberately lied about someone

25. [____] I have told another prisoner that they have to send me a postal order when they get out

26. [____] I have made fun of another prisoner's family

27. [____] I have deliberately told another prisoner lies about a prison rule(s) to make them look stupid

28. [____] I have picked on another prisoner with my friends

29. [____] I have sexually abused/assaulted someone

30. [____] I have forced another prisoner to swap some of their property with me

31. [____] I have tried to frighten another prisoner

32. [____] I have gossiped about another prisoner

33. [____] I have verbally abused someone by shouting at them during the night

34. [____] I have deliberately started a fight

35. [____] I have verbally threatened another prisoner

36. [____] I have made fun of another prisoner

37. [____] I have encouraged others to turn against another prisoner

38. [____] I have deliberately insulted someone

39. [____] I have played a practical joke on someone

40. [____] I played a practical joke on someone who did not find it funny

41. [____] I have sexually harassed someone

42. [____] I have given items to others and asked them to pay me back with 'interest'

43. [____] I have forced someone to buy me canteen

44. [____] I have forced another prisoner to buy me other goods

45. [____] I have forced someone to give me their canteen

46. [____] I have forced another prisoner to give away other goods for free

The week that I have just described represents a typical/average month for me:
(please circle)   **YES**   **NO**

TIPI

Here are a number of personality traits that may or may not apply to you. Please circle a number next to each statement to indicate the extent to which you agree or disagree with that statement. You should rate the extent to which the pair of traits applies to you, even if one characteristic applies more strongly than the other

Answer this questionnaire by focusing on what you have been like generally across your life.

SCALE

Disagree strongly	Disagree moderately	Disagree a little	neither agree nor disagree	Agree a little	Agree moderately	Agree strongly
1	2	3	4	5	6	7

1. Extroverted, enthusiastic   1   2   3   4   5   6   7

2. Critical, quarrelsome [gets into arguments]   1   2   3   4   5   6   7

3. Dependable, self-disciplined   1   2   3   4   5   6   7

4. Anxious, easily upset   1   2   3   4   5   6   7

5. Open to new experiences, complex   1   2   3   4   5   6   7

6. Reserved, quiet   1   2   3   4   5   6   7

7. Sympathetic, warm   1   2   3   4   5   6   7

8. Disorganised, careless.   1   2   3   4   5   6   7

9. Calm, emotionally stable.   1   2   3   4   5   6   7

10. Conventional, uncreative   1   2   3   4   5   6   7

The following questions ask you how you would deal with aggression from other prisoner(s). Please complete the following questions as best you can. Please complete all questions and do so honestly.

a.   **How LIKELY is it that another prisoner will be aggressive towards you in the next month?**

0	1	2	3	4
not at all		a bit		a lot

b.   **How LIKELY is it that you will experience the following type(s) of aggression in the next month?**

	not at all		a bit		a lot
Physical	0	1	2	3	4
Verbal	0	1	2	3	4
Psychological	0	1	2	3	4
Sexual	0	1	2	3	4
Theft-related	0	1	2	3	4
Indirect*	0	1	2	3	4

(e.g., spreading rumours, deliberately ignoring someone, leaving someone out).

c.   **To what extent do you think you are at risk of being harmed PHYSICALLY from aggression whilst in prison, in the next month? Please circle your response below where:**

0	1	2	3	4
not at all		a bit		a lot

d.   **To what extent do you think you are at risk of being harmed PSYCHOLOGICALLY from aggression whilst in prison, in the next month? Please circle your response below where:**

0	1	2	3	4
not at all		a bit		a lot

e.   **To what extent do you think you are at risk of being harmed SOCIALLY (e.g., reduced reputation among your peers) from aggression whilst in prison, in the next month? Please circle your response below where:**

0	1	2	3	4
not at all		a bit		a lot

f. **How much do you FEAR another prisoner being aggressive towards you whilst in prison, in the next month? Please circle your response below where:**

0	1	2	3	4
not at all		a bit		a lot

g. **Using the following scale:**

0 = not helpful at all; 1 = not really helpful; 2 = somewhat helpful; 3 = helpful; 4 = very helpful

Rate how HELPFUL the following behaviours are likely to be if you feel fearful of/at risk of another prisoner(s) being aggressive towards you:

		Not helpful				Very helpful
1.	Being aggressive towards the prisoners(s)	0	1	2	3	4
2.	Being aggressive towards another prisoner	0	1	2	3	4
3.	Becoming aggressive towards staff	0	1	2	3	4
4.	Self-harming	0	1	2	3	4
5.	Threatening to self-harm	0	1	2	3	4
6.	Staying in my cell when I could be out	0	1	2	3	4
7.	Avoiding contact with other prisoners	0	1	2	3	4
8.	Putting on "an act" by pretending to be tougher	0	1	2	3	4
9.	Seeking help from another prisoner(s)	0	1	2	3	4
10.	Seeking help from staff	0	1	2	3	4
11.	Trying to reason with the prisoner(s)	0	1	2	3	4
12.	Just giving up and doing what they want	0	1	2	3	4
13.	Try to ignore it	0	1	2	3	4

h. **Of these behaviours, which ONE do you think is likely to be the MOST SUCCESSFUL in terms of stopping aggression? Underline one**

Being aggressive towards the prisoners(s)

Being aggressive towards another prisoner

Becoming aggressive towards staff

Self-harming

Try to ignore it

Threatening to self-harm

Trying to reason with the prisoner(s)

Staying in my cell when I could be out

Avoiding contact with other prisoners

Putting on "an act" by pretending to be tougher you are

Just giving up and doing what they want

Seeking help from another prisoner(s)

Seeking help from staff

i. **If you were fearful/felt at risk of aggression from another prisoner(s), which ONE of the following behaviours would you be MOST LIKELY to use? Underline one**

Being aggressive towards the prisoners(s)

Being aggressive towards another prisoner

Becoming aggressive towards staff

Self-harming

Try to ignore it

Threatening to self-harm

Trying to reason with the prisoner(s)

Staying in my cell when I could be out

Avoiding contact with other prisoners

Putting on "an act" by pretending to be tougher you are

Just give up and do what they want

Seeking help from another prisoner(s)

Seeking help from staff

j. **Now, using the following scale:**

0 = not likely at all; 1 = not really likely; 2 = somewhat likely; 3 = likely; 4 = very likely

Indicate how likely your chosen behaviour would be to do the following:

		not likely at all				very likely
1.	It will make me feel better	0	1	2	3	4
2.	It will protect me from the prisoner(s)	0	1	2	3	4
3.	It will stop the aggression	0	1	2	3	4
4.	It will make me look better in front of other prisoners	0	1	2	3	4
5.	It will make sure I do what is expected of me by other prisoners	0	1	2	3	4

k. **How successful do you think you would be in using your chosen behaviour?**

0	1	2	3	4
not at all		a bit		very

l. **Using the following scale:**

0 = not at all; 1 = not really; 2 = somewhat; 3 = very likely; 4 = definitely

Of the following behaviours, which do you think OTHER PRISONERS would expect you to do if you were at risk of aggression from another prisoner?

		definitely				not at all
1.	To be aggressive towards the prisoners(s) trying to bully you	0	1	2	3	4
2.	To stay in my cell when you could be out	0	1	2	3	4
3.	To be aggressive towards another prisoner	0	1	2	3	4
4.	To avoid contact with other prisoners	0	1	2	3	4
5.	To be aggressive towards staff	0	1	2	3	4
6.	To self-harm	0	1	2	3	4
7.	To put on "an act" by pretending to be tougher	0	1	2	3	4
8.	To threaten self-harm	0	1	2	3	4
9.	To seek help from other prisoner(s)	0	1	2	3	4
10.	To try to reason with the prisoner(s) likely to bully you	0	1	2	3	4
11.	To seek help from staff	0	1	2	3	4
12.	To give up and just do what the bully(s) want	0	1	2	3	4
13.	To just ignore it	0	1	2	3	4

Environment and Social Climate Questionnaire

Instructions
Below are 50 statements about how you may feel and think about the prison. Please read the statements and put a circle around the answer that best fits you:

Strongly Agree   **Agree**   **Disagree**   **Strongly Disagree**
     SA   **A**   **D**
     SD

	Statements	Answers			
1.	Prisoners put a lot of energy into what they do around here.	SA	A	D	SD
2.	The stronger prisoners here help to take care of the less strong ones.	SA	A	D	SD
3.	Prisoners have a say in the running of things.	SA	A	D	SD
4.	Prisoners' daily activities are carefully planned.	SA	A	D	SD
5.	Prisoners who break the rules know what will happen to them.	SA	A	D	SD
6.	Once a timetable or plan is arranged for a prisoner, they must follow it.	SA	A	D	SD
7.	The prisoners care for each other.	SA	A	D	SD
8.	Really threatening situations can happen here.	SA	A	D	SD
9.	Prisoners can talk openly to staff about all their problems.	SA	A	D	SD
10.	The prisoners are proud of the way people get along on the unit.	SA	A	D	SD
11.	Prisoners get good help with getting settled when they leave the prison.	SA	A	D	SD
12.	Prisoners are expected to make decisions for themselves here.	SA	A	D	SD
13.	The prison is always clean and tidy.	SA	A	D	SD
14.	This is a well organised prison.	SA	A	D	SD
15.	If a prisoner is transferred, staff always explain why.	SA	A	D	SD
16.	The staff punish prisoners by taking away their privileges.	SA	A	D	SD
17.	Even the weakest prisoner will be supported by the others.	SA	A	D	SD
18.	There are some really aggressive prisoners in this prison.	SA	A	D	SD

19.	Staff take a personal interest in the progress of the prisoners.	SA	A	D	SD
20.	Prisoners volunteer to help out around here.	SA	A	D	SD
21.	Staff always say nice things when a prisoner does something well.	SA	A	D	SD
22.	Prisoners often take charge of activities.	SA	A	D	SD
23.	The design and layout of the prison means that it can be noisy and unpleasant to live here.	SA	A	D	SD
24.	The staff make sure that this place if always neat.	SA	A	D	SD
25.	Staff explain how this place is meant to help people.	SA	A	D	SD
26.	Prisoners who break the rules are punished for it.	SA	A	D	SD
27.	Most prisoners don't care about other people's problems.	SA	A	D	SD
28.	Some prisoners are afraid of other prisoners.	SA	A	D	SD
29.	Staff members spend a lot of time with prisoners.	SA	A	D	SD
30.	A lot of prisoners don't do anything with their time here.	SA	A	D	SD
31.	Staff do what they say they will do.	SA	A	D	SD
32.	The staff act on prisoners' suggestions.	SA	A	D	SD
33.	Prisoners here follow a regular routine every day.	SA	A	D	SD
34.	The prisoners always know when the staff will be around.	SA	A	D	SD
35.	There is the right number of staff here for the number of prisoners.	SA	A	D	SD
36.	Prisoners are allowed to interrupt staff when they are talking.	SA	A	D	SD
37.	When prisoners have a genuine concern they find support from other prisoners	SA	A	D	SD
38.	At times, members of staff feel threatened by some of the prisoners.	SA	A	D	SD
39.	Often, staff seem not to care if inmates succeed or fail at what they do on the Unit	SA	A	D	SD
40.	Discussions here are very interesting.	SA	A	D	SD
41.	Prisoners do not have enough personal space here.	SA	A	D	SD
42.	The staff go out of their way to help new prisoners get to know each other.	SA	A	D	SD
43.	Prisoners here are encouraged to do things for themselves.	SA	A	D	SD
44.	Prisoners are not often kept waiting when they have appointments	SA	A	D	SD

	with staff.				
45.	People are always changing their minds here.	SA	A	D	SD
46.	Prisoners can refuse to take part in planned unit activities.	SA	A	D	SD
47.	Prisoners here support each other well.	SA	A	D	SD
48.	Some prisoners here get worked up so easily that you have to be careful with them.	SA	A	D	SD
49.	Staff know prisoners and their personal histories very well.	SA	A	D	SD
50.	There are too many prisoners for the size of the prison.	SA	A	D	SD

Title of research: Intent to aggress in forensic settings

DEBRIEF SHEET

What was the research exploring?

The study is examining environmental and personal factors which may relate to the use of aggression in prisons. The Interactional Model of Intra-group Aggression (Ireland, 2002) suggests that aggression in secure settings arises as a result of both the environment (e.g., attitudes and culture of the secure setting, size of wings/cells) and individual characteristics (e.g., beliefs, personality, time in prison). It is not clear which aspects may be most influential in the intent to use aggression. Thus the research aims to determine which aspects of the model may be most significant.

What questionnaires did I complete?

You completed 5 questionnaires as follows:

1. A general questionnaire which looked at types of aggressive behaviour that you may have or have not engaged in.
2. A general questionnaire which looked at your perception of aggression in the prison and your beliefs about how to respond if this occurs.
3. The Personality Inventory which looked at the type of person you generally are e.g., an extrovert, an introvert.
4. An environmental questionnaire which explored your perception of the social and physical environment of the prison.
5. The causes of aggression scale which looked at your opinion about the most and least likely causes of aggression in the prison.

What predictions is the research making?

We are expecting to find differences in individual characteristics between prisoner reporting use of aggression and those who do not. In particular we think we may find that, some personality traits and specific beliefs may be linked to the use of aggression. Perceptions of the social environment as encouraging aggression and the physical environment as 'unpleasant' may be related to the level and type of aggression used. Perceptions of how much aggression occurs may differ to the actual reported use, and an increased expectation of aggression may in turn influence perceptions of the environment.

Why is this information useful?

We are hoping that the findings from this research will help up to design supportive interventions to reduce the incidence of aggression by indicating which factors (e.g., environmental perceptions) are important.

If you would like to know more about this topic or find out about the outcomes of this research please do not hesitate to contact the researcher. Polly Turner, Forensic Psychologist % Jane L. Ireland, Psychology Department, University of Central Lancashire, Preston, Lancashire, PR1 2HE.
If you have experienced any distress whilst completing the questionnaires please liaise with your personal officer or additional support systems (e.g., the prison listener scheme).

Questionnaire pack 2: STAFF

Coversheet: STAFF RESEARCH

I am a forensic psychologist and conducting a piece of research with the University of Central Lancashire in Preston. You are being invited to participate in a piece of research that will ask you to complete 4 questionnaires. The research is examining behaviour within prison and your perceptions of this behaviour and the prison environment. The research is also interested in how this may relate to personal characteristics (e.g., beliefs).

The questionnaires are for this research project only and will not be accessible to anyone other than persons with a legitimate professional need (e.g., researcher and supervisor). Reports will be produced at the end of the study but these will report on findings from entire group as a whole. No one will be singled out. Engaging or not engaging in this study will have no impact upon your personal period of imprisonment.

The questionnaires explore …
- **Personal characteristics (e.g., beliefs)**
- **Your perceptions of aggression**
- **Your view of social and physical environment**
- **Your opinions about the causes of aggression in prison**

If you do wish to engage in this research please be aware that all responses are anonymous and therefore you cannot be identified from your responses on the questionnaires. Do <u>not</u> put your name or staff number on the questionnaires.

The questionnaires are estimated to take around 30-45 minutes to complete and will be collected by the researcher once you have completed them. You will be given an envelope into which you can place your completed questionnaire.

If any of these questionnaires cause you concern or upset you in anyway, I suggest that you speak to your line manager in the first instance. Do remember that you do not have to engage in this research and thus if you do find the questionnaires upsetting please feel free not to complete them.

You also have the right to withdraw from the research; you don't have to complete the questionnaires. Please be aware however, that once you have handed your questionnaire back completed, we will not be able to take you out of the research since the research is totally anonymous.

If you do have any questions about the research (e.g., queries with particular questions) please feel free to speak to the researcher.

Thank you for your time and assistance in completing this questionnaire!

Contact details for the researcher are as follows: Polly Turner, Forensic Psychologist ,% Jane L. Ireland, Psychology Department, University of Central Lancashire, Preston, Lancashire, PR1 2HE.

PLEASE ANSWER THE FOLLOWING QUESTIONS.

How long have you worked as a prison officer?

 ……… **(approximate years)**

How old are you? …………………

Are you MALE or FEMALE (delete as applicable)

What is your ethnic origin (please circle)?

White   Asian or Asian British   Black or Black British   Chinese   Mixed

Other (please

specify)...………………………

Read the following behaviours and tick any behaviours you believe they may have occurred ON YOUR WING in the prison PAST MONTH:

We are interested in behaviours that occur between prisoners.

1. [___] A prisoner was hit or kicked by another prisoner

2. [___] A prisoner physically threatened another prisoner with violence

3. [___] A prisoner was sent a 'shit parcel' from another prisoner

4. [___] A prisoner was called names about their race or colour

5. [___] A prisoner was called names about their offence or charge

6. [___] A prisoner was called names about something else

7. [___] A prisoner was gossiped about

8. [___] A prisoner was deliberately pushed

9. [___] A prisoner had their property deliberately damaged

10. [___] Someone deliberately started a fight

11. [___] A prisoner deliberately spat on another prisoner

12. [___] A prisoner had their food deliberately spat on by another prisoner

13. [___] A prisoner was told to send another prisoner a postal order when I get out

14. [___] A prisoner was deliberately ignored

15. [___] A prisoner had some tobacco stolen

16. [___] A prisoner had property stolen by another prisoner

17. [___] A prisoner was forced to ask family or friends to send money in for another prisoner

18. [___] A prisoner was forced to send out private cash to another prisoner's family

19. [___] A prisoner made fun of another prisoner's family

20. [___] Another prisoner deliberately told me lies about a prison rule(s) to make someone look stupid

21. [___] A prisoner was forced by another prisoner to lend them a phone card

22. [___] A prisoner was forced to sing out of a window

23. [____] Someone verbally abused a prisoner during the night by shouting at them

24. [____] A prisoner lost property through being taxed

25. [____] A prisoner was deliberately frightened by another prisoner

26. [____] A prisoner was sexually abused/assaulted

27. [____] Someone forced a prisoner to take drugs

28. [____] A prisoner was intimidated

29. [____] A prisoner has had rumours spread about them

30. [____] A prisoner was deliberately given less food at dinnertime

31. [____] A prisoner was deliberately excluded by another prisoner(s) from an activity

32. [____] A prisoner verbally abused another prisoner's family

33. [____] Someone deliberately lied about another prisoner

34. [____] A prisoner was made fun of

35. [____] A prisoner has been forced to lie for someone

36. [____] Someone tried to turn other prisoners against another prisoner

37. [____] Someone deliberately insulted another prisoner

38. [____] A prisoner had a practical joke played on them

39. [____] A prisoner had a practical joke played on them that they didn't find funny

40. [____] A prisoner was verbally threatened by another prisoner

41. [____] A prisoner has been sexually harassed

42. [____] A prisoner has forced someone to swap some of their property with them

43. [____] A prisoner has borrowed from others and must pay them back with 'interest'

44. [____] A prisoner was forced to buy canteen for someone

45. [____] A prisoner was forced to buy other goods for another prisoner

46. [____] A prisoner was forced to give their canteen to someone

47. [____] A prisoner was forced to give other goods away for free

The following questions ask you how you believe prisoners would deal with aggression from other prisoner(s). Please complete the following questions as best you can. Please complete all questions and do so honestly. Please focus on behaviour which you believe may happen **ON YOUR WING**.

a. **How LIKELY is it that a prisoner will be aggressive towards another prisoner in the next month?**

0	1	2	3	4
not at all		a bit		a lot

b. **How LIKELY is it that a prisoner will experience the following type(s) of aggression, in the next month?**

	not at all		a bit		a lot
Physical	0	1	2	3	4
Verbal	0	1	2	3	4
Psychological	0	1	2	3	4
Sexual	0	1	2	3	4
Theft-related	0	1	2	3	4
Indirect*	0	1	2	3	4

(e.g., spreading rumours, deliberately ignoring someone, leaving someone out).

c. **To what extent do you think a prisoner is at risk of being harmed PHYSICALLY from aggression whilst in prison, in the next month? Please circle your response below where:**

0	1	2	3	4
not at all		a bit		a lot

d. **To what extent do you think a prisoner is at risk of being harmed PSYCHOLOGICALLY from aggression whilst in prison, in the next month? Please circle your response below where:**

0	1	2	3	4
not at all		a bit		a lot

e. **To what extent do you think a prisoner is at risk of being harmed SOCIALLY (e.g., reduced reputation among your peers) from aggression whilst in prison, in the next month? Please circle your response below where:**

0	1	2	3	4
not at all		a bit		a lot

f. **How much do you FEAR a prisoner being aggressive towards another prisoner in the next month? Please circle your response below where:**

0	1	2	3	4
not at all		a bit		a lot

g. **Using the following scale:**

0 = not helpful at all; 1 = not really helpful; 2 = somewhat helpful; 3 = helpful; 4 = very helpful

Rate how HELPFUL the following behaviours are likely to be if a prisoner felt fearful of/at risk of another prisoner(s) being aggressive towards them:

<div style="text-align:right">
not helpful
very
at all
helpful
</div>

1.	Being aggressive towards the prisoners(s)	0	1	2	3	4
2.	Being aggressive towards another prisoner	0	1	2	3	4
3.	Becoming aggressive towards staff	0	1	2	3	4
4.	Self-harming	0	1	2	3	4
5.	Threatening to self-harm	0	1	2	3	4
6.	Staying in the cell when they could be out	0	1	2	3	4
7.	Avoiding contact with other prisoners	0	1	2	3	4
8.	Putting on 'an act' by pretending to be tougher	0	1	2	3	4
9.	Seeking help from another prisoner(s)	0	1	2	3	4
10.	Seeking help from staff	0	1	2	3	4
11.	Trying to reason with the prisoner(s)	0	1	2	3	4
12.	Just giving up and doing what they want	0	1	2	3	4
13.	Try to ignore it	0	1	2	3	4

h. **Of these behaviours, which ONE do you think is likely to be the MOST SUCCESSFUL in terms of stopping aggression? Underline one**

Being aggressive towards the prisoners(s)	Staying in the cell when they could be out
Being aggressive towards another prisoner	Avoiding contact with other prisoners
Becoming aggressive towards staff	Putting on "an act" by pretending to be tougher
Self-harming	Just giving up and doing what they want
Try to ignore it	Seeking help from another prisoner(s)
Threatening to self-harm	Seeking help from staff
Trying to reason with the prisoner(s)	

i. **If a prisoner was fearful/felt at risk of aggression from another prisoner(s), which ONE of the following behaviours would they be MOST LIKELY to use? Underline one**

Being aggressive towards the prisoners(s)

Staying in the cell when they could be out

Being aggressive towards another prisoner

Avoiding contact with other prisoners

Becoming aggressive towards staff

Putting on "an act" by pretending to be tougher

Self-harming

Just give up and do what they want

Try to ignore it

Seeking help from another prisoner(s)

Threatening to self-harm

Seeking help from staff

Trying to reason with the prisoner(s)

j. **Now, using the following scale:**

0 = not likely at all; 1 = not really likely; 2 = somewhat likely; 3 = likely; 4 = very likely

Indicate how likely the chosen behaviour would be to do the following:

		not likely very at all likely				
1.	It will make them feel better	0	1	2	3	4
2.	It will protect them from the prisoner(s)	0	1	2	3	4
3.	It will stop bullying	0	1	2	3	4
4.	It will make them look better in front of other prisoners	0	1	2	3	4
5.	It will make sure they do what is expected of them by other prisoners	0	1	2	3	4

k. **How successful do you think they would be in using the chosen behaviour?**

0	1	2	3	4
not at all		a bit		very

l. **Using the following scale:**

0 = not at all; 1 = not really; 2 = somewhat; 3 = very likely; 4 = definitely

Of the following behaviours, which do you think OTHER PRISONERS would expect the prisoner to do if they were at risk of aggression from others?

		definitely				not at all
1.	To be aggressive towards the prisoners(s)	0	1	2	3	4
2.	To stay in the cell when they could be out	0	1	2	3	4
3.	To be aggressive towards another prisoner	0	1	2	3	4
4.	To avoid contact with other prisoners	0	1	2	3	4
5.	To be aggressive towards staff	0	1	2	3	4
6.	To self-harm	0	1	2	3	4
7.	To put on "an act" by pretending to be tougher	0	1	2	3	4
8.	To threaten self-harm	0	1	2	3	4
9.	To seek help from other prisoner(s)	0	1	2	3	4
10.	To try to reason with the prisoner(s)	0	1	2	3	4
11.	To seek help from staff	0	1	2	3	4
12.	To give up and just do what they want	0	1	2	3	4
13.	To just ignore it	0	1	2	3	4

Environment and Social Climate Questionnaire

Instructions

Below are 50 statements about how you may feel and think about the prison. Please
read the statements and put a circle around the answer that best fits you:

Strongly Agree	**Agree**	**Disagree**	**Strongly**
Disagree	**SA**	**A**	**D**
	SD		

	Statements	Answers			
1.	Prisoners put a lot of energy into what they do around here.	SA	A	D	SD
2.	The stronger prisoners here help to take care of the less strong ones.	SA	A	D	SD
3.	Prisoners have a say in the running of things.	SA	A	D	SD
4.	Prisoners' daily activities are carefully planned.	SA	A	D	SD
5.	Prisoners who break the rules know what will happen to them.	SA	A	D	SD
6.	Once a timetable or plan is arranged for a prisoner, they must follow it.	SA	A	D	SD
7.	The prisoners care for each other.	SA	A	D	SD
8.	Really threatening situations can happen here.	SA	A	D	SD
9.	Prisoners can talk openly to staff about all their problems.	SA	A	D	SD
10.	The prisoners are proud of the way people get along on the unit.	SA	A	D	SD
11.	Prisoners get good help with getting settled when they leave the prison.	SA	A	D	SD
12.	Prisoners are expected to make decisions for themselves here.	SA	A	D	SD
13.	The prison is always clean and tidy.	SA	A	D	SD
14.	This is a well organised prison.	SA	A	D	SD
15.	If a prisoner is transferred, staff always explain why.	SA	A	D	SD
16.	The staff punish prisoners by taking away their privileges.	SA	A	D	SD
17.	Even the weakest prisoner will be supported by the others.	SA	A	D	SD
18.	There are some really aggressive prisoners in this prison.	SA	A	D	SD
19.	Staff take a personal interest in the progress of the prisoners.	SA	A	D	SD

20.	Prisoners volunteer to help out around here.	SA	A	D	SD
21.	Staff always say nice things when a prisoner does something well.	SA	A	D	SD
22.	Prisoners often take charge of activities.	SA	A	D	SD
23.	The design and layout of the prison means that it can be noisy and unpleasant to live here.	SA	A	D	SD
24.	The staff make sure that this place if always neat.	SA	A	D	SD
25.	Staff explain how this place is meant to help people.	SA	A	D	SD
26.	Prisoners who break the rules are punished for it.	SA	A	D	SD
27.	Most prisoners don't care about other people's problems.	SA	A	D	SD
28.	Some prisoners are afraid of other prisoners.	SA	A	D	SD
29.	Staff members spend a lot of time with prisoners.	SA	A	D	SD
30.	A lot of prisoners don't do anything with their time here.	SA	A	D	SD
31.	Staff do what they say they will do.	SA	A	D	SD
32.	The staff act on prisoners' suggestions.	SA	A	D	SD
33.	Prisoners here follow a regular routine every day.	SA	A	D	SD
34.	The prisoners always know when the staff will be around.	SA	A	D	SD
35.	There is the right number of staff here for the number of prisoners.	SA	A	D	SD
36.	Prisoners are allowed to interrupt staff when they are talking.	SA	A	D	SD
37.	When prisoners have a genuine concern they find support from other prisoners	SA	A	D	SD
38.	At times, members of staff feel threatened by some of the prisoners.	SA	A	D	SD
39.	Often, staff seem not to care if inmates succeed or fail at what they do on the Unit	SA	A	D	SD
40.	Discussions here are very interesting.	SA	A	D	SD
41.	Prisoners do not have enough personal space here.	SA	A	D	SD
42.	The staff go out of their way to help new prisoners get to know each other.	SA	A	D	SD
43.	Prisoners here are encouraged to do things for themselves.	SA	A	D	SD
44.	Prisoners are not often kept waiting when they have appointments with staff.	SA	A	D	SD

45.	People are always changing their minds here.	SA	A	D	SD
46.	Prisoners can refuse to take part in planned unit activities.	SA	A	D	SD
47.	Prisoners here support each other well.	SA	A	D	SD
48.	Some prisoners here get worked up so easily that you have to be careful with them.	SA	A	D	SD
49.	Staff know prisoners and their personal histories very well.	SA	A	D	SD
50.	There are too many prisoners for the size of the prison.	SA	A	D	SD

Title of research: Intent to aggress in forensic settings

DEBRIEF SHEET: STAFF RESEARCH

What was the research exploring?

The study is examining environmental and personal factors which may relate to the use of aggression in prisons. The Interactional Model of Intra-group Aggression (Ireland, 2002) suggests that aggression in secure settings arises as a result of both the environment (e.g., attitudes and culture of the secure setting, size of wings/cells) and individual characteristics (e.g., beliefs, personality, time in prison). It is not clear which aspects may be most influential in the intent to use aggression. Thus the research aims to determine which aspects of the model may be most significant.

What questionnaires did I complete?

You completed 4 questionnaires as follows:
1. A general questionnaire which looked at types of aggressive behaviour that you may have witnessed or believe to happen at the prison.
2. A general questionnaire which looked at your perception of the level of aggression in the prison and your beliefs about how prisoners should respond if this occurs.
3. An environmental questionnaire which explored your perception of the social and physical environment of the prison.
4. The causes of aggression scale which looked at your opinion about the most and least likely causes of aggression in the prison.

What predictions is the research making?

We are expecting to find differences in perceptions of aggression in the prison. We predict that this may differ according to experience of working with prisoners and individual characteristics (e.g., beliefs about aggression). We also believe that the perception of the social and physical environment will lead to differences in the expectations of aggression. The latter may impact on the views on causes of aggression in the establishment.

Why is this information useful?

We are hoping that the findings from this research will help up to design supportive interventions to reduce the incidence of aggression by indicating which factors (e.g., environmental perceptions) are important.

If you would like to know more about this topic or find out about the outcomes of this research please do not hesitate to contact the researcher; Polly Turner, Forensic Psychologist % Jane L. Ireland, Psychology Department, University of Central Lancashire, Preston, Lancashire, PR1 2HE.

If you have experienced any distress whilst completing the questionnaires please liaise with your line manager.

Appendix 5

Moderator Analysis in study three (additional information)

Tables A6.1 – A6.5 outline the results of the moderator analysis completed in study three examining the interaction between fear and five independent variables (agreeableness, extraversion, neuroticism, expectation of harm/aggression and aggressive beliefs) in the prediction of aggression. The tables outline the direct effects of the variables on aggression and also the interaction. As is evident, no interactions were significant.   Figure A5.1 presents the conditional effect of fear and aggressive beliefs.

Direct effects were observed for agreeableness, extraversion and expectation of harm/aggression in the prediction of aggression. Fear did not directly predict aggression in any of the regressions.

Table A5.1: Moderation of fear on aggression by agreeableness

	B	SE	t	p	LLCI	ULCI
Intercept	3.02	1.01	3.01	0.00	1.05	5.01
Fear	5.44	3.33	1.64	0.10	-1.11	11.9
Agreeableness	-0.21	0.09	-2.37	0.02	-0.39	-0.04
Fear X Agreeableness	-0.38	0.30	-1.27	0.21	-0.97	0.21

$F(3,342) = 6.45$, $R^2 = 0.08$, $p < .0003$

(Not significant as 0 falls between the lower and upper level 95% CI)

Table A5.2: Moderation of fear on aggression by extraversion

	B	SE	t	p	LLCI	ULCI
Intercept	-0.29	0.71	-0.41	0.68	-1.68	1.10
Fear	1.01	2.13	0.48	0.64	-3.17	5.21
Extraversion	0.15	0.09	1.72	0.08	-0.02	0.33
Fear X Extraversion	0.12	0.30	0.39	0.69	-0.47	0.71

$F (3,329) = 4.01$, $R^2 = 0.04$, $p < .008$

(Not significant as 0 falls between the lower and upper level 95% CI)

Table A5.3: Moderation of fear on aggression by Neuroticism

	B	SE	t	p	LLCI	ULCI
Intercept	0.27	0.46	0.58	0.56	-0.64	1.18
Fear	2.51	1.71	1.47	0.14	-0.85	5.86
Neuroticism	0.12	0.08	1.46	0.15	-0.04	0.28
Fear X Neuroticism	-0.14	0.19	-0.69	0.48	-0.53	0.25

$F (3,345) = 3.75$, $R^2 = 0.03$, $p < .011$

(Not significant as 0 falls between the lower and upper level 95% CI)

Table A5.4: Moderation of fear on aggression by Aggressive Beliefs

	B	SE	t	p	LLCI	ULCI
Intercept	0.59	0.36	1.66	0.09	-0.11	1.30
Fear	0.19	1.09	0.18	0.85	-1.95	2.35
Aggressive beliefs	0.08	0.05	1.65	0.10	-0.02	0.17
Fear X Aggressive beliefs	0.15	0.11	1.30	0.19	-0.07	0.37

$F_{(3, 280)} = 4.52$, $R^2 = 0.07$, $p < .004$

(Not significant as 0 falls between the lower and upper level 95% CI)
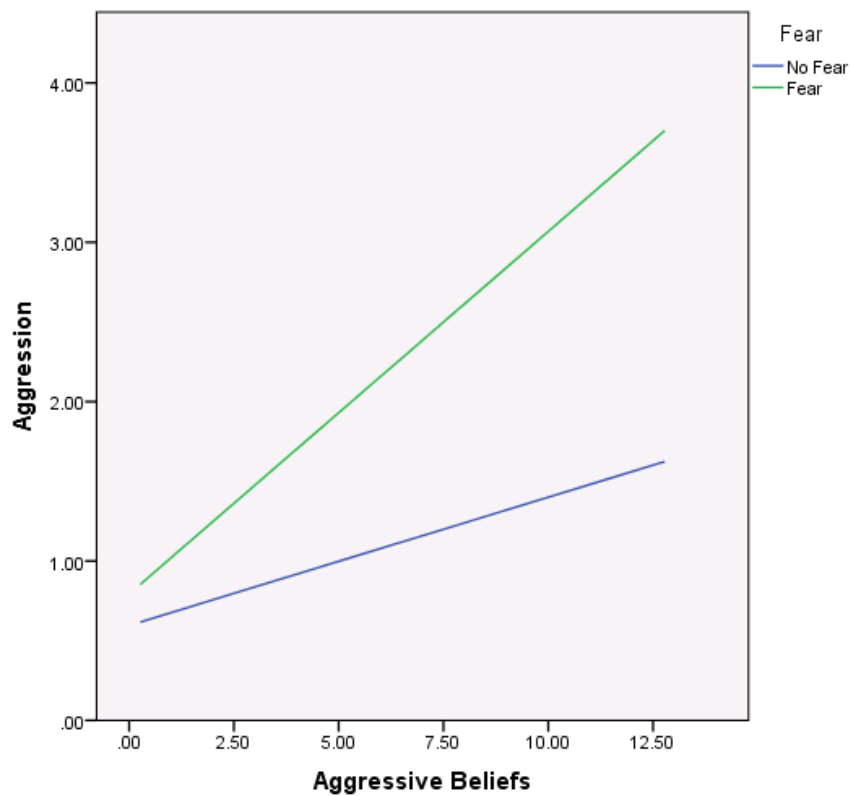
Figure A5.1: A visual representation of the moderation effect of fear on the association between beliefs and aggression.

Table A5.5: Moderation of fear on aggression by Expectation of aggression/harm

	B	SE	t	p	LLCI	ULCI
Intercept	0.55	0.15	3.64	0.00	0.25	0.85
Fear	-0.86	0.96	-0.89	0.37	-2.75	1.03
Expectation of aggression/harm*	0.15	0.06	2.18	0.03	0.01	0.28
Fear X Expectation of aggression/harm	0.04	0.11	0.38	0.70	-0.17	0.25

$F(3, 318) = 5.10, R^2 = 0.13, p < .002$

* p <.05 (0 does not fall between the lower and upper level 95% CI)

Appendix 6

Publication of study one

Appendix 7

Publication of study two

Do Personality Characteristics and Beliefs Predict Intra-Group Bullying Between Prisoners?

Polly Turner and Jane L. Ireland*

School of Psychology, University of Central Lancashire and Psychological Services, Ashworth Hospital, Mersey Care NHS Trust, Lancashire, United Kingdom

: :

This study assesses how beliefs about aggression and personality can predict engagement in intra-group bullying among prisoners. A sample of 213 adult male prisoners completed the DIPC-SCALED (bullying behavior), the EXPAGG (beliefs toward aggression), and the IPIP (a five-factor measure of personality). It was predicted that bullies would hold greater instrumental beliefs supporting the use of aggression than the other categories, with perpetrators reporting lower scores on agreeableness, conscientiousness, and openness to experience, and higher scores on neuroticism (i.e. low scores on emotional stability) than the remaining sample. Bullies and bully-victims endorsed greater instrumental aggressive beliefs than the victim category. Only one perpetrator group, bullies were predicted by reduced levels of agreeableness and increased levels of neuroticism, whereas bully/victims were predicted by decreased levels of neuroticism. Limitations of this study and directions for future research are discussed. Aggr. Behav. 36:261–270, 2010. © 2010 Wiley-Liss, Inc.

: :

Research examining aggression between those housed in forensic settings, has focused on bullying behaviors in recent years [e.g. Ireland, 2002a, 2005a; Ireland and Ireland, 2008; Nurse et al., 2003; Palmer and Begum, 2006], with the majority of research focused on prisons [Ireland, 2005b; Nagi et al., 2006]. There are a number of definitions of "bullying" in the literature [Smith and Brain, 2000] and it is not the purpose of this study to try and present these since they differ significantly across context (e.g. school, workplace, and prisons). Broad definitions are applied to forensic settings, with Ireland [2002b] stating how:

> An individual is being bullied when they are the victim of direct and/or indirect aggression happening on a weekly basis, by the same or different perpetrator(s). Single incidences of aggression can be viewed as bullying, particularly when they are severe and when the individual either believes or fears that they are at risk of future victimization by the same perpetrator or others. An incident can be considered bullying if the victim believes that they have been aggressed towards, regardless

of the actual intention of the bully. It can also be bullying when the imbalance of power between the bully and his/her victim is implied and not immediately evident." (p 26).

There has been a recent preference to describe "bullying" less by using an emotive label and more by what it represents, namely "intra-group aggression" [Ireland and Ireland, 2008]. Despite this "bullying" continues to represent the all-encompassing preferred term by researchers. Thus, the term intra-group bullying will be employed here to encapsulate views.

Within the research there tends to be a focus on the range of categories involved in intra-group bullying. The most recently applied classification system employs a median split approach and separates prisoners into "bullies," "victims," "bully/victims,"

*Correspondence to: Jane L. Ireland, School of Psychology, University of Central Lancashire, Preston, PR1 2HE, Lancashire, United Kingdom. E-mail: JLIreland1@uclan.ac.uk

and "low frequency-causal involvement," with this latter group comprised of those reporting either no perpetration or victimization *or* whose frequency of behaviors was either at or below the median [Ireland and Ireland, 2008].

Regardless of the specific method to classify prisoners into groups, bullies are typically the smallest category, with bully-victims tending to be the most common and representative of the mutual perpetrator-victimized category [Ireland, 2002a; Ireland and Ireland, 2008]. Researchers suggest that prisoners belonging to this category often aggress to prevent the further victimization of themselves [Ireland, 2002b; Palmer and Thakordas, 2005]. They are therefore considered to represent reactive aggressors [Ireland and Ireland, 2008]. There is support for this with Palmer and Thakordas [2005] noting how bullies tended to report using instrumental/proactive aggression, whereas bully-victims reported using expressive/reactive aggression. The former type of aggression is considered to be more planned and controlled in nature, with the latter more uncontrolled and emotionally driven [e.g. Anderson and Bushman, 2002].

Research such as this highlights the importance of looking at aggression in terms of its *motivation* and associated beliefs, as opposed to a sole focus on *typology* [Ireland, 2008; Kockler et al., 2006]. Research has explored individual differences between the categories involved in relation to beliefs toward aggression [Ireland and Archer, 2002], extending this to other variables of interest such as hostility [Palmer and Thakordas, 2005], engagement in negative and disruptive behaviors [Ireland and Monaghan, 2006; Ireland et al., 2007], impulsivity, displaced aggression [Archer et al., 2007], assertiveness [Ireland, 2002a], and trait aggression [Ireland and Ireland, 2008], to name a few.

One potentially important variable of interest that has not been researched in relation to intra-group bullying among prisoners is the role of general personality, particularly those using general factor models of personality such as the Five Factor Model [FFM comprising Extraversion, Emotional Stability [Neuroticism], Agreeableness, Conscientiousness, and Openness/Intellect; Goldberg, 1990; Goldberg and Rosolack, 1994]. Indeed personality has been shown to relate to self-regulation, such as the inhibition of aggression [Jensen-Campbell et al., 2007], and as such it is an important concept to examine.

Research has examined a suggested link between personality traits and *general* aggression with a commonly found association between high neuroticism and increased aggression [Sharpe and Desai,

2001; Tremblay and Ewart, 2005], between increased extraversion and increased antisocial behavior [Eysenck, 1996] and between lower levels of openness to experience and antisocial behavior [Eysenck, 1992]. Agreeableness also has a relationship with aggression, with *increased* agreeableness relating to *decreased* aggression [Gleason et al., 2004]. Gleason et al. explain how this is due to agreeableness being related to one's motivation to maintain positive interpersonal relationships, thus being negatively linked with aggression toward others. High conscientiousness scores also appear linked with increased self-control and thereby less aggressive responses [Jensen-Campbell et al., 2007]. Collectively, however, there is stronger support for the role of (low) agreeableness and (high) neuroticism in aggression expression in comparison to the other facets of the Five Factor Models of general personality [Caprara et al., 1994].

While recognizing that individual characteristics are important, the influence of the social and physical environment cannot be ignored. Ireland [2002b] emphasizes how the intra-group bullying that occurs in prisons, is a result of the interaction between individual (e.g. personality) *and* environmental factors (e.g. physical structures, attitudes, normative beliefs, etc.). The Interactional Model of Prison Bullying proposed by Ireland [2002b] describes how the key interaction is between these factors, with attitudes serving both as an *individual* characteristic *and* as an aspect of the social *environment*. The Theory of Reasoned Behavior (TRB) is particularly useful with regards to its description of attitudes [Fishbein and Ajzen, 1975], viewing these as composed of individual *beliefs* about the consequences of performing a specific behavior, which coupled with *subjective norms* (i.e. perceived expectations from relevant others, in this instance the prisoner subculture), predicts an individual's intention to engage in a behavior. It should not be surprising therefore that beliefs are considered highly important components in prison intra-group bullying. Ireland [2002b] further emphasizes how beliefs supportive of aggression in prisons serve to increase the tendency of the aggressor to select an aggressive response since the likely social retribution for an aggressive act is lowered.

Indeed, beliefs have been recognized as a key factor in social information processing models applied to further an understanding of aggression, including that occurring within prisons. Such models evaluate the role of interpretation and belief systems, and represent classic models in

understanding human aggression. For example, both the General Aggression Model [GAM: Anderson and Bushman, 2002; Anderson et al., 2007] and the Integrated Information Processing Model of Huesmann [1998] place emphasis on a role for beliefs and scripts in driving aggressive responding, with beliefs allowing for the accessibility of scripts. The stronger an individual's beliefs toward the value in using aggression (a product of their previous use of aggression and evaluated success of this), the more likely they will be to select an aggressive script when in a challenging situation or when their goal is blocked.

In relation to prison intra-group bullying, it may be expected that those using aggression frequently (e.g. bullies and bully-victims) in a social environment, which supports the use of aggression to resolve conflict, namely a prison setting [Ireland, 2002b], perceive the consequences of aggression to be few and hold greater pro-aggressive instrumental beliefs. This is supported by Ireland and Archer [2002] who examined beliefs toward aggression in prisons and found that *both* perpetrator categories (i.e. bullies and bully-victims) were more likely to perceive positive consequences associated with the use of aggression than victims or the low frequency-causal involvement group. This is also significant in that it indicates that bully-victims share common features with bullies [Ireland, 2002b].

What the results of such studies highlight is the value in social information processing theory, and how it can allow us to predict that those who use aggression and thus perform aggressive scripts more frequently (e.g. bullies and bully-victims) would be more likely to hold beliefs supportive of aggression. Indeed, both the Integrated Information Processing Model and the GAM model highlight the importance of interacting factors, in producing an aggressive response. Although each may place different emphasis on different aspects, both share a core facet in highlighting the importance of beliefs.

The aim of this study was to further explore the role of beliefs in the reported perpetration of intra-group bullying and to examine whether the categories involved differed with regards to these beliefs. The study also aimed to expand the current research base by exploring how personality may relate to intra-group bullying among prisoners, conceptualizing personality as a stable trait and therefore expected to remain consistent across situational demands. Participants completed a self-report checklist of bullying behaviors, a questionnaire looking at beliefs about aggression, and a questionnaire assessing personality traits. The following hypotheses were indicated:

(1) That bullies will demonstrate higher instrumental beliefs about aggression than *all* other categories [Palmer and Thakordas, 2005], with this in keeping with information processing theory [Anderson and Bushman, 2002; Huesmann, 1998].
(2) Those reporting perpetration will report lower scores on agreeableness, conscientiousness, and openness to experience (intellect) than the remaining sample [Caprara et al., 1994; Eysenck, 1996, 1992; Gleason et al., 2004; Jensen-Campbell et al., 2007].
(3) Those reporting perpetration will report higher scores on neuroticism (i.e. lower emotional stability) than the remaining sample [Caprara et al., 1994; Gleason et al., 2004].

METHOD

Participants

Two hundred and thirteen male prisoners participated in the study from one category B establishment (i.e. an establishment containing medium-to-high-risk offenders). A total of 550 questionnaires were distributed, representing a 39% response rate. The mean age of the study was 30 years (age range 21–60 years: SD 8.2). Sixty-three percent of the sample were of White ethnic origin, 13% were Black or Black British, 11% were Asian or Asian British, 12% were of mixed ethnic origin, and 1% was Chinese. The average sentence length was 47.4 months (SD 53.8), while the average total time spent in secure institutions, 54.8 months (range 0–240 months: SD 51.2). Fifty percent of the sample were convicted of violent offences, 24% of an acquisitive offence, 11% of drug-related offences, 3% of sexual offences, and 12% of other indictable offences. Four percent were serving life sentences and 23% were on remand.

Measures

All prisoners completed the following measures.

Direct and Indirect Prisoner behavior Checklist-Scaled (DIPC-SCALED; Ireland and Ireland, 2008] was used to measure the extent and frequency of bullying behaviors. The measure does not use the term "bullying" as research has shown that this leads to under-reporting of bullying behaviors

[e.g. Ireland and Ireland, 2008]. The questionnaire contains 111 items relating to discrete forms of direct and indirect bullying behaviors. Self-reported victimization is divided into direct physical, psychological/verbal, theft-related, sex-related and indirect types of bullying behaviors. Examples of items include, "I was called names about my race or color," "I have been kicked by another prisoner," "I have been deliberately ignored," and "I have been pushed by another prisoner." Self-reported perpetration is also divided into the same categories of bullying behaviors, with example items including "I have hit or kicked another prisoner," "I have called another prisoner names about their offence or charge," "I have intimidated another prisoner," "I have spread rumors about another prisoner." The DIPC-SCALED also includes assessment of reactions to bullying behaviors and engagement in positive, negative, and drug-related behaviors. Individuals are asked to rate the frequency of each behavior, in the past month, based on the experience or engagement in the behavior on a scale of 0–4 (0, never; 1, rarely; 2, sometimes; 3, often; 4, always). The DIPC has been validated on male and female adult populations, young offenders, and also psychiatric samples [Ireland, 2002b].

International Personality Item Pool [IPIP; Goldberg, 1999] was used to assess the individual personality characteristics of respondents (positive and negative traits). It is composed of 50 short sentences describing various behaviors associated with each of the Big Five dimensions (i.e. Extraversion, Conscientiousness, Agreeableness, Emotional Stability (neuroticism), and Intellect (openness)). For example "I am the life of the party," "I don't talk a lot," I have excellent ideas," "I get upset easily," and "I talk to lots of people at parties." Each Big Five scale contains 10 items paired with a 5-point Likert response scale (from 1 = strongly disagree to 5 = strongly agree).

The revised EXPAGG [Archer and Haigh, 1997]. The 16-item revised version was employed here. It assesses instrumental beliefs about aggression (e.g. "I feel that physical aggression is necessary to get through to some people" and "If someone challenged me to a fight in public, I'd feel cowardly if I backed away") and expressive beliefs about aggression (e.g. "I believe that my aggression comes from losing my self-control" and "In a heated argument I am most afraid of saying something terrible that I can never take back"). Instrumentally is classically referred to as the more controlled aggression, with expressive more emotionally driven. Items are rated on a 5-point scale. The EXPAGG has been validated on adult prison samples [Archer and Haigh, 1997].

Procedure

The sample included all prisoners based on six randomly chosen prison wings at the time of the study. All prisoners on each wing were invited to participate and provided with a coversheet indicating the purpose of the study in order to obtain informed consent. Written consent was not acquired as this was considered a threat to participant anonymity and thus consent was determined by the return of the completed measure. Prisoners were also provided with information concerning what they should do if the measures caused distress. This was in accordance with local prison policy. Participants completed the questionnaire on their own, in their cells. Questionnaires were distributed during an extended lock-up period (when cell doors were locked) during a training day when prisoners were locked in their cells for the morning and afternoon periods. Questionnaires were placed under cell doors and handed in, completed or uncompleted, in sealed unmarked envelopes during mealtimes. These were provided to the researcher and not opened by officers. It was stressed that participant names or prison numbers were not required, and that the questionnaire only required basic descriptive information. Prisoners were informed that if they experienced any difficulties in completing the measures (including any literacy difficulties), that they could ask for assistance. No prisoners requested this. All prisoners were provided with a debrief sheet.

RESULTS

This section will present the process and outcome of data screening, reliability coefficients for all measures used in the study, and analysis of the DIPC-SCALED data. This section will then present the analysis of beliefs toward aggression including self-reported beliefs toward aggression and, finally, results in relation to personality.

Data-Screening

Prior to analysis data-screening procedures were completed, specifically missing values and outlier analysis. Boxplots were used to analyze the spread of data, looking for univariate outliers. Regression analysis was completed to determine multivariate outliers; with reference to any extreme Mahalobias

TABLE I. Overall Means and Reliability Table for DIPC-SCALED, EXPAGG, and IPIP

		n	Number of items	Cronbach's α	Mean (SD)
DIPC-SCALED Subscales	Perpetration[a]	175	43	.97	9.42 (16.8)
	Indirect perpetration	193	13	.89	4.15 (5.81)
	Direct perpetration	177	30	.96	7.22 (10.2)
	Victimization	174	47	.94	12.7 (18.7)
	Indirect victimization	183	14	.89	6.14 (7.26)
	Direct victimization	178	33	.92	7.53 (8.96)
EXPAGG subscale	Instrumental aggression	179	8	.79	27.4 (6.7)
	Expressive aggression	180	8	.51	—[b]
IPIP subscales	Extraversion	165	10	.82	30.8 (7.4)
	Agreeableness	175	10	.76	36.1 (6.3)
	Conscientiousness	184	10	.69	35.9 (5.8)
	Neuroticism (low emotional stability)	184	10	.80	30.4 (5.4)
	Openness (intellect)	173	10	.73	34.8 (6.1)

[a]Overall range: Victimization: 152 (minimum 0: maximum 152: possible range = 220); Perpetration: 162 (minimum 0: maximum 162: possible range = 224).
[b]Not reported due to low α and therefore poor reliability.

distances (scores above 25). Thirteen participants were identified as multivariate outliers. They were therefore removed from the dataset to aid distribution spread. Removal of these outliers greatly reduced Kurtosis (1.49) and Skewness (−.88). Resulting distribution scores were reduced to acceptable levels when standard errors were accounted for (Kurtosis = 0.13; Skewness = .01). The final sample therefore comprised 200 participants.

Reliability and Inter-Correlations for the DIPC-SCALED, EXPAGG, and IPIP Measure

Reliability was assessed using Cronbach's α. Table I presents the reliability levels for all subscales of the DIPC-SCALED, EXPAGG, and IPIP measures, with Table II presenting the correlations across all measures. As is evident from Table I, the DIPC-SCALED achieved good reliability across each subscale. The reliability was reduced for the EXPAGG expressive subscales. It is important to note that there were no negative item to total correlations in the expressive subscale, and so individual items cannot explain the low α. As a result of this the expressive scale from the EXPAGG was not used for the analysis: it was clearly an unacceptably low α.

DIPC-SCALED: Behaviors Indicative of Perpetration and Victimization

Overall, 74% of the sample reported at least one item indicative of perpetration in the past month. Indirect perpetration was most frequently reported, with 70% of the sample reporting this compared to

49% endorsing direct perpetration items. Eighty-seven percent of the sample reported at least one item suggesting they had been victimized in the past month. Indirect forms of victimization were reported more frequently; 81% compared to 60% reporting direct victimization. With regards to frequency of behavior, the mean scores overall and across each type of aggression are demonstrated in Table I.

Categories involved in bullying and/or victimization. This study used median split analysis to classify membership of one of the bully categories.[1] This study opted for the median split method as this offered larger and more statistically robust categories by which to compare [Tabachnick and Fidell, 2007]. This allowed the sample to be separated into four groups. Those scoring above the median on perpetration items were coded as "above median bullies," those scoring above the median on victimization items as "above median victims," those above the median on perpetration and victimization as "above median bully/victims." Those reporting either no perpetration or victimization *or* whose frequency of behaviors was either at or below the median were classified as "low frequency-causal involvement." This followed the classification system used in Ireland and Ireland [2008].

This approach resulted in 13% ($n = 26$) of the sample classified as above median perpetrators (bullies), 10.5%

---

[1]Ireland and Ireland (2008) compared median split analysis and the traditional dichotomous classification method of determining membership of the bully categories and found that each method was equally valid and produced comparable results across individual difference analyses.

TABLE II. Correlations Across DIPC-SCALED, EXPAGG, and IPIP

Subscale	P: r (n)	V: r (n)	I: r (n)	E: r (n)	A: r (n)	C: r (n)	N: r (n)	O: r (n)
Perpetration (P)	–	.53*** (197)	.30*** (178)	.03 (164)	−.28*** (174)	−.22** (164)	−.13 (183)	−.05 (172)
Victimization (V)		–	−.03 (178)	−.10 (164)	.04 (174)	−.01 (164)	−.24*** (183)	.07 (172)
Instrumental (I)			–	.04 (158)	.21** (175)	−.27*** (159)	−.26*** (177)	−.02 (166)
Extraversion (E)				–	.38*** (158)	.26*** (153)	.35*** (165)	.37*** (158)
Agreeableness (A)					–	.50*** (158)	.21** (175)	.44*** (166)
Conscientiousness (C)						–	.33*** (165)	.52*** (159)
Neuroticism (N) (low emotional stability)							–	.11 (173)
Openness (O) (intellect)								–

*$P<.05$; **$P<.01$; ***$P<.0001$.

TABLE III. Self-Reported Personality Scores on IPIP Across Bully Categories

	Extraversion		Agreeableness		Conscientiousness		Neuroticism (low emotional stability)		Openness (intellect)	
	n	M (SD)	n	M (SD)	n	M (SD)	n	M (SD)	n	M (SD)
Bully	24	32.0 (5.8)	22	33.6 (6.4)	24	35.3 (5.9)	24	32.9 (6.2)	24	33.9 (5.6)
Pure victim	19	27.7 (7.3)	19	36.9 (7.1)	20	38.2 (6.5)	20	28.4 (8.8)	19	37.2 (4.7)
Bully-victim	63	30.2 (7.8)	67	36.4 (5.9)	71	34.5 (5.8)	71	28.9 (7.2)	65	34.9 (6.6)
Low frequency/casual involvement	59	32.0 (7.2)	67	36.4 (6.3)	69	36.7 (5.3)	69	31.7 (7.2)	65	34.4 (5.9)

($n = 21$) above median victims (victims), 38.5% ($n = 77$) above median perpetrator-victims (bully-victims), 38% ($n = 67$) low frequency/causal involvement.

Beliefs Toward Aggression

Table I presents the mean total EXPAGG scores overall with regards to instrumental. For each category results were as follows (Mean/SD/n): above median bully (29.1/6.2/24), above median victim (23.7/7.8/18), above median bully-victim (28.3/7.1/67), and low frequency/casual involvement (26.9/5.8/70).

Self-reported instrumental beliefs toward aggression. Univariate ANOVA was completed to measure whether the bully category reported higher instrumental beliefs toward aggression scores than other categories. The analysis found there to be a significant difference: $F (3, 175) = 3.00$, $P<.03$. The largest difference ($P<.04$) was between the above median bully and above median bully/victims ($P<.04$), with both categories presenting with higher scores than above median victims.

Personality and Intra-Group Bullying Behaviors

Personality characteristics related to bullying behaviors. Examination of the average reported IPIP scores was completed to assess the extent to which the categories reported differing degrees of personality characteristics compared to each other.

Table I presents the overall self-reported IPIP scores, with Table III presenting this across bully category.

A MANOVA was completed to measure the extent to which some categories reported personality traits more than others. There was no multivariate effect ($F (15, 128) = .09$ ns, although planned comparison tests indicated a trend for bullies to present with higher levels of extraversion than victims ($P<.08$), and to present with higher levels of neuroticism (low emotional stability) than the low-frequency/casual involvement group ($P<.06$).

Prediction of category membership from beliefs and personality. Four binary logistic regressions were completed to determine which factors predicted membership to each bully-category individually when compared to the remaining sample.[2] The binary variable represented each individual group category, with the continuous predictors representing the EXPAGG subscale (instrumental), and the five IPIP personality variables. Table IV presents the regression findings and individual model statistics.

---

[2]This analysis is more in keeping with previous approaches, and allows each category to be compared to the remaining sample mean. It also controls for the markedly increased sample size for the bully victim category, which would dominate any effect if a multinomial regression was used. Multinomial would not allow for an assessment of how each *individual* category compared to the *overall* mean, which is the intention here based on previous studies, and the related predictions noted.

TABLE IV. Summary of Logistic Regressions Predicting Category Membership (n = 126, missing = 74)

	Bully B (SE)	Pure victim B (SE)	Bully-victim B (SE)	Low freq-causal involvement B (SE)
Extraversion	.05 (.04)	−.07 (.04)	−.05 (.03)	.05 (.03)
Agreeableness	−.12 (.04)**	−.05 (.06)	.04 (.04)	.01 (.04)
Conscientiousness	.02 (.06)	.08 (.07)	−.05 (.04)	.05 (.04)
Neuroticism (low emotional stability)	.09 (.04)*	−.05 (.04)	−.06 (.02)*	−.001 (.03)
Openness (intellect)	−.01 (.05)	.12 (.08)	.05 (.04)	−.05 (.04)
Instrumental aggression	.06 (.05)	−.10 (.05)*	.001 (.02)	−.009 (.03)
Residual χ^2	4.28	9.63	5.93	6.56
(df, P)	(df = 4, P<.36)	(df = 5, P<.08)	(df = 5, P<.31)	(df = 6, P<.36)
R	−.16	−.18	−.14	–
Exp (B)	.92	.90	.94	

*P<.05; **P<.01; ***P<.0001.

The regressions demonstrated that the bully category was predicted by reduced levels of agreeableness and increased levels of neuroticism. Pure victims were predicted by decreased levels of instrumental beliefs, with bully/victims by decreased levels of neuroticism. There were no predictors for the low-frequency/causal involvement categories.

DISCUSSION

The rates of perpetration and victimization observed are in line with previous findings, with indirect aggression being most commonly reported [Ireland and Ireland, 2008]. This study obtained higher estimates than previous studies, with 70% of participants reported engaging in indirect forms of bullying over the last month, while 81% of participants reported being subject to indirect victimization over the last month. However this study did employ the DIPC-SCALED measure which looks at engagement in bullying behaviors over the *previous month* and not over a *weekly period* unlike the majority of previous prison-based research. The rates observed were in line with the Ireland and Ireland [2008] study employing the DIPC-SCALED measure. This study also replicated other studies, in terms of the bully-victim category representing the largest subcategory [Ireland, 1999, 2002b; Ireland and Monaghan, 2006].

The hypothesis that bullies would hold higher instrumental beliefs about aggression than other categories was only partly supported. Bullies only demonstrated higher instrumental aggressive beliefs in comparison to victims and not in relation to all other categories, as was predicted, although this finding did extend to bully-victims who also reported more instrumental beliefs. The finding that a perpetrator category held greater instrumental beliefs is consistent with previous research indicating that perpetrators report more instrumental aggression [Palmer and Thakordas, 2005]. This is in line with social information processing theory [Huesmann, 1998] and the General Aggression Model [Anderson and Bushman, 2002], whereby aggressors are known to hold beliefs supportive of aggression (e.g. instrumental aggressive beliefs). This lends some support to the previous finding of Ireland and Archer [2002] who indicated that bullies tended to view aggression as positive (e.g. helpful). In this study bullies are reporting beliefs that endorse the planned (i.e. instrumental) use of aggression, thereby indicating that they believe this to be appropriate and acceptable. Therefore, this study suggests that those who believe aggression to be a helpful strategy to resolve problems and achieve goals are more likely to engage in intra-group bullying in prison. The findings suggest that perpetrators may be acting aggressively, in line with their greater instrumental beliefs, as they expect the environment to support their use of aggression [Ireland and Archer, 2002].

With regards to personality and intra-group bullying, it was initially predicted that perpetrators would report significantly lower scores on agreeableness, conscientiousness, and openness to experience, and higher scores on neuroticism than the remaining sample [Caprara et al., 1994; Eysenck, 1996, 1992; Gleason et al., 2004; Jensen-Campbell et al., 2007]. The study did not support this. Indeed it was only when exploring the *predictors* of category membership that there was some partial support, with the bully category predicted by reduced levels of agreeableness and increased levels of neuroticism (i.e. low emotional stability). The results demonstrated that bully/victims were not aligned with the bully category in this regard, with agreeableness not a predictor for this category, whereas *decreased* levels of neuroticism were. Thus, it appears that

although there is some convergence with the perpetration groups (i.e. bullies and bully/victims) in relation to instrumental beliefs, this did not extend to *predictors* of category membership. Indeed the current results suggest that it is the [pure] bully category whose personality is most consistent with the more reported expectations from the literature [Caprara et al., 1994; Gleason et al., 2004], whereas bully-victims are not. This is not an altogether surprising finding when it is considered that previous research has been guilty of failing to separate out perpetrators and victimizers, resulting in an over-focus on a 'bully' category, which fails to acknowledge heterogeneity within this category, specifically the existence of bully-victims. The results indicate overall that increased levels of less helpful personality traits represent a predictor of *bully* category status, whereas for victim and low-frequency/casual involvement categories, personality did not appear as predictors.

Nonetheless, the finding that low agreeableness, increased neuroticism (emotional instability), and increased instrumental beliefs were associated with perpetrator status does serve to highlight the similarities between the general aggression literature and prison-based aggression in terms of the personality and belief structures underpinning aggression. This suggests more convergence between forensic and general samples than is perhaps commonly realized, particularly since agreeableness and neuroticism are the more reliably reported personality components related to aggression in general samples. It appears to be equally the case with forensic samples.

The current findings, although mixed and not entirely as predicted, are important since they may increase our understanding of the individual factors implicated in intra-group bullying. It has been suggested, for example, that victims have poor coping skills (e.g. high neuroticism) and this is why they remain victimized. However, the current results do not support this with high neuroticism not featuring either for victims or bully-victims. The absence of neuroticism as a defining feature challenges stereotypical view of victims, particularly since *decreased* neuroticism was a predictor of bully-victims. If this category is conceptualized more as a victim group [Ireland and Ireland, 2008], then it presents a view of a victim as being calm, rational, and less likely to react to stressors. This is not a stereotypical view. Indeed, this study supports a role for increased neuroticism as a predictor for those solely engaging in perpetration, which again is in keeping with the general aggression literature, which

points to high neuroticism scores as directly related to increased aggression [Sharpe and Desai, 2001; Tremblay and Ewart, 2005].

Accounting for the prison environment also becomes important when trying to explain how one category involved in perpetration (e.g. bully-victims) are not predicted or influenced by personality in the direction expected in the general aggression literature. Bully-victims are considered to be a particularly interesting category within prison-based research where it is suggested that they have developed as a transient group purely in response to the prison environment and the threats that this environment poses [Ireland, 2002b]. The Interactional Model of Prison bullying [Ireland, 2002b] emphasizes the dual role of environmental and individual factors in intra-group bullying and it could be that personality is not a significant factor alone. In fact this study lends weight to the this model as it suggests not one individual factor, such as personality, is as influential in bullying as the *combination* of other factors, e.g. environmental aspects, such as beliefs (as part of social attitudes).

There were however some limitations, with this study that need to be acknowledged. One such limitation is the measurement of perpetration and victimization based purely on self report. It may have been beneficial to supplement the self report with objective measures of aggression (e.g. staff observations). As intra-group bullying can be covert, this would have been difficult to accurately measure. This study also did not control for literacy levels, which was a product of ensuring participant anonymity. Ensuring anonymity is an essential element of research of this nature and although participants with difficulty had the opportunity to have a researcher go through their questionnaire with them, this was not taken up by any participants. It is felt that this is a product of prisoners trying to ensure anonymity and now wanting to be seen to be fraternizing unnecessarily with staff, even if these staff were independent to the prison. This study also composed of 50% of violent offenders. Although offence category has not been reliably demonstrated to represent a predictor of intra-group bullying [Ireland, 2005b], it is a potential limitation in that there is no means of assessing whether or not the sampled population for this study was a representative one, although it is not atypical for a Category B establishment. Finally, this study was unable to explore the role of expressive motivation in bullying behavior due to the unreliability of this component of the EXPAGG. This does suggest that the assessment of expressive motivation among

prisoner samples is in need of some review, and that measures originally developed to assess this among general samples are not translating well.

In conclusion, the rates of bullying behaviors reported were in line with past findings, with indirect aggression most common [Ireland and Ireland, 2008]. As was predicted, instrumental aggressive beliefs were greater amongst the perpetrator categories [Palmer and Thakordas, 2005]. This highlights important applications for clinical settings in the management of aggression, suggesting that clinicians need to consider interventions, which focus on identifying and managing instrumental aggressive beliefs. One such strategy may be focusing on identifying alternative nonaggressive strategies that can meet their needs. This is important as the individual with instrumental aggressive beliefs is likely to view aggression as helpful and purposeful and may need support considering alternatives to aggression. The study also reported on a relationship between personality and intra-group bullying although this only related to predictors for category membership and applied only to bullies and bully-victims. Although bullies were described in a way that was consistent with more general research into aggression, bully-victims were not. This suggests that convergence between the perpetrator groups does not extend to personality and is inconsistent with research suggesting that bullies and bully-victims are broadly similar with regards to intrinsic qualities [Ireland, 2002a]. Future research could explore the link between personality and intra-group aggression in more detail, expanding exploration beyond the general personality factors. Future research may also want to adopt a longitudinal design to assess whether beliefs toward aggression are subject to change within prison. For example, research demonstrates that bully-victims act aggressively to prevent their own victimization. Thus, it may be that their beliefs toward aggression change in the prison environment to reduce any dissonance with acting aggressively. Therefore, a longitudinal research design could monitor any change in line with engagement with aggression. Such designs, if expanded beyond the focused number of variables listed in this study, would also prove of assistance with any developed testing of the Interactional Model of Prison bullying [Ireland, 2005b].

REFERENCES

Anderson CA, Bushman BJ. (2002). Human aggression. Annual Review of Psychology, 53:27–51.

Anderson CA, Gentile DA, Buckley KE. (2007). Violent Video Game Effects on Children and Adolescents: Theory, Research and Public Policy. New York: Oxford University Press.

Archer J, Haigh A. (1997). Do beliefs about aggressive feelings and actions predict reported levels of aggression? British Journal of Social Psychology, 36:83–105.

Archer J, Ireland JL, Power CL. (2007). Differences between bullies and victims, and men and women, on aggression related variables among prisoners. British Journal of Social Psychology, 46:299–322.

Caprara VG, Barbaranelli C, Pastorelli C, Perugini M. (1994). Individual differences in the study of human aggression. Aggressive Behavior, 20:291–303.

Eysenck HJ. (1992). Four ways five factors are not basic. Personality and Individual Differences, 13:667–673.

Eysenck HJ. (1996). Personality theory and the problem of criminality. In: Muncie J, McLaughlin J (eds). Criminological Perspectives: A Reader. London: Sage. p 81–98.

Fishbein M, Ajzen I. (1975). Belief, Attitude, Intention, and Behavior: An Introduction to Theory and Research. Reading, MA: Addison-Wesley.

Gleason KA, Jensen-Campbell LA, Richardson D. (2004). Agreeableness as a predictor of aggression in adolescents. Aggressive Behavior, 30:43–61.

Goldberg LR. (1990). An alternative "description of personality": The Big-Five factor structure. Journal of Personality and Social Psychology, 59:1216–1229.

Goldberg LR. (1999). The development of five-factor domain scales from the IPIP Item *Pool*. [On-line]. Available URL: http://ipip.ori.org/ipip/memo.htm. Accessed 02.04.2010.

Goldberg LR, Rosolack TK. (1994). The Big Five factor structure as an integrative framework: An empirical comparison with Eysenck's P-E-N model. In: Halverson JrCF, Kohnstamm GA, Martin RP (eds), The Developing Structure of Temperament and Personality from Infancy to Adulthood. Hillsdale, NJ: Erlbaum. p 7–35.

Huesmann LR. (1998). The role of social information processing and cognitive schema in the acquisition and maintenance of habitual aggressive behavior. In: Donnerstein E (ed). Human Aggression: Theories, Research, and Implications for Social Policy. San Diego: Academic Press. p 73–109.

Ireland JL. (1999). Pro-victim attitudes and empathy in relation to bullying behaviors among prisoners. Legal and Criminological Psychology, 4:51–66.

Ireland JL. (2002a). How does assertiveness relate to bullying behavior among prisoners? Legal and Criminological Psychology, 7:87–100.

Ireland JL. (2002b). Bullying among Prisoners: Evidence, Research, and Intervention Strategies. London: Brunner Routledge.

Ireland JL. (2005a). Psychological health and bullying behavior among adolescent prisoners: A study of young and juvenile offenders. Journal of Adolescent Health, 36:236–243.

Ireland JL. (2005b). Bullying among Prisoners: Innovations in Research and Theory. London: Brunner Routledge.

Ireland JL. (2008). Conducting individualized theory-driven assessments of violent offenders. In: Ireland JL, Ireland CA, Birch P (eds). Assessment, Treatment and Management of Violent and Sexual Offenders. Cullompton, UK: Willan. p 68–96.

Ireland JL, Archer J. (2002). The perceived consequences of responding to bullying with aggression: A study of male and female adult prisoners. Aggressive Behavior, 28:257–272.

Ireland JL, Ireland CL. (2008). Intra-group aggression among prisoners: Frequency of bullying and exploration of victim-perpetrator mutuality. Aggressive Behavior, 34:76–87.

Ireland JL, Monaghan R. (2006). Behaviors indicative of bullying among young and juvenile male offenders: A study of perpetrator and victim characteristics. Aggressive Behavior, 32: 172–780.

Ireland JL, Archer J, Power CL. (2007). Characteristics of male and female prisoners involved in bullying behavior. Aggressive Behavior, 33:220–229.

Jensen-Campbell LA, Knack JM, Waldrip AM, Campbell SD. (2007). Do big five personality traits associated with self control influence the regulation of anger and aggression? Journal of Research in Personality, 41:403–424.

Kockler TR, Stanford MS, Meloy JR, Nelson CE, Sanford K. (2006). Characterizing aggressive behavior in a forensic population. American Journal of Orthopsychiatry, 76:80–85.

Nagi C, Browne K, Blake J. (2006). A descriptive analysis of the nature and extent of bullying at a category C prison. The British Journal of Forensic Practice, 8:4–9.

Nurse J, Woodcock P, Ormsby J. (2003). Influence of environmental factors on mental health within prisons: A focus group study. British Medical Journal, 327:480.

Palmer EJ, Begum A. (2006). The relationship between moral reasoning, pro-victim attitudes and interpersonal aggression among imprisoned young offenders. International Journal of Offender Therapy and Comparative Criminology, 50:446–457.

Palmer EJ, Thakordas V. (2005). Relationship between bullying and scores on the Buss-Perry Aggression questionnaire among imprisoned male offenders. Aggressive Behavior, 31: 56–66.

Sharpe JP, Desai S. (2001). The revised NEO personality inventory and MMPI-2 psychopathology five in the prediction of aggression. Personality and Individual Differences, 31:505–518.

Smith PK, Brain P. (2000). Bullying in schools: Lessons from two decades of research. Aggressive Behavior, 26:1–9.

Tabachnick BG, Fidell LS. (2007). Using Multivariate Statistics, 5th edition. Boston: Allyn & Bacon.

Tremblay PF, Ewart LA. (2005). The Buss-Perry Aggression Questionnaire and its relations to values, the big five, provoking hypothetical situations, alcohol consumption patterns and alcohol expectancies. Personality and Individual Differences, 38:337–346.
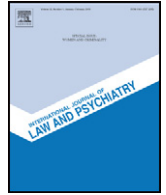
Officer attitudes towards intra-group aggression in young people and young adults: Does the reported motivation of an aggressor impact on intervention and support?

Polly Turner [a,b], Jane L. Ireland [a,c,*]

[a] *School of Psychology, University of Central Lancashire, UK*
[b] *Psychological Services, Merseycare NHS Trust, Liverpool L31 1HW, UK*
[c] *Ashworth Research Centre (ARC), Forensic Psychiatry High Secure, Merseycare NHS Trust, Liverpool L31 1HW, UK*

ARTICLE INFO

ABSTRACT

The present study aims to assess whether global and context specific attitudes influence the ability to correctly identify the motivation for aggression and selection of appropriate intervention strategies. A sample of 105 prison officers completed a measure assessing global attitudes towards prisoners, one assessing context specific attitudes towards aggression, and also a case vignette. Officers were asked to consider the motivation for aggression and to select an appropriate intervention. It was predicted that sex, age and level of experience would impact on global and context specific attitudes. Officers expressing positive global attitudes and non-aggressive context specific attitudes were expected to be more able to identify the motivation for aggression and more likely to adopt a rehabilitative approach. There was evidence to indicate sex differences in global and context specific attitudes but no impact of age. Level of experience of aggression impacted both on global and context specific attitudes. Global or context specific attitudes did not influence the ability to interpret aggression, but aggression type did. Limitations and directions for future research are discussed.

© 2011 Elsevier Ltd. All rights reserved.

Attitudes serve several important functions. They help provide meaning to experiences, they can assist in social interactions and motivate our behavior (Hayes, 2000). There has been considerable research exploring the link between attitudes and behavior. Initially it was felt that the relationship was somewhat weak. However, it is known that there are various moderators to this relationship. The Theory of Planned Behaviour (Ajzen, 1991) suggests that intention to behave in a certain manner is moderated by attitudes, perceived social pressure and perceived behavioral control. For example, an individual is more likely to act in line with their beliefs if the perceived social pressure is in line with their attitudes and also if there would *not* be any negative consequences of acting in line with their beliefs.

Westaby (2005) has updated the existing research into attitudes and developed 'Behavioural Reasoning Theory'. Behaviour Reasoning Theory highlights the distinction between global attitudes (e.g. general attitudes) and context specific attitudes (related to a certain situation or event). It may be, for example, that an individual who initially holds attitudes that are unsupportive of aggression within their general life, may alter these attitudes across specific situations. For example if an individual works in a forensic context, their context specific reasoning would need to examine the reasons for aggression occurring regularly within this context. It could be argued that continuous exposure to aggression and frequent reasoning to explain

such behavior could lead to an eventual change in general attitude about this behavior, to minimise any psychological dissonance. Therefore, it would be useful to explore attitudes towards violence and aggression (e.g. context specific attitudes) in persons who are likely to observe aggression regularly. For example, it may be that such context specific attitudes have dramatic influences over practice. Attitudes of professionals, whether global or context specific, are likely to have an influence over their interactions with clients and thus this remains a significant area of enquiry (Craig, 2005; Farkas, 1999).

When examining aggression it is important to emphasise that it is a complex construct, comprising of behavioral expressions and affective and cognitive components (Palmer & Begum, 2006). Aggression is reported to often be viewed by professionals in terms of motivation, as being either instrumental or reactive (Kockler, Stanford, Meloy, Nelson, & Sanford, 2006; Ramirez & Andreu, 2006). Instrumental aggression refers to a planned use of aggression whilst reactive aggression refers to an emotionally driven, impulsive act. However, research has shown it is not always easy for professionals to distinguish between the two and that this perhaps limits the consideration of all possible functions (i.e. motivations) of aggression (Daffern & Howells, 2007).

Research has evaluated the understanding of aggression by individuals when observing instrumental and reactive forms of aggression. Boxer and Tisak (2003) expected adolescents in their study to view reactive aggression as a product of unstable situational factors, whilst instrumental aggression would be perceived as due to individual (stable) factors. Results did not support this, suggesting that aggression motivation may not be easily perceived. Reeder, Kumar,

Hesson-McInnis, and Trafimow (2002) also noted that the type of aggression observed led to judgements about the individual. For example, views of 'provoked aggression' (reactive aggression) were linked to positive views of aggressors whilst aggression seen as 'selfish' (instrumental aggression) was linked to negative views of the person. This highlights the potential impact of aggression upon global views of individuals.

There has been considerable research examining context specific attitudes to aggression; focusing on the way in which staff view aggression and its causes and how this can relate to attitudes. However, this research has been focused almost exclusively on nursing contexts. Findings suggest marked influences in the way aggression is viewed on the management of aggression (Hahn, Needham, Abderhalden, Duxbury, & Halfens, 2006).

Jansen, Dassen, Burgerhof, and Middel (2006) used the Attitudes Towards Aggression Scale (ATAS) and found three specific classes of attitudes among nurses; these were 'harming' reaction, 'normal' reaction and 'functional' reaction. They reported that the nurses who endorsed attitudes suggestive of a clear understanding of aggression (functional reaction) were typically more experienced staff members. Jansen et al. (2006) found that men more likely to endorse items suggestive of 'normal' reactions (e.g. feeling aggression occurs in the setting and is part of their job), whereas Whittington (2002) reported that more experienced nursing staff were more tolerant of aggression and endorsed attitudes supportive of aggression. These pro-aggressive attitudes in staff have been found to affect chosen intervention, with tolerance being linked to calmer, collaborative approaches in nursing staff (Whittington & Higgins, 2002).

Brand and Anastasio (2006) report that typically attitudes towards aggression will depend on an individual's wider understanding of the causes of human behavior. For example, if a person believes some people can be inherently 'bad', they are more likely to favour punishment as opposed to treatment options. However, if a person believes in the influencing role of environmental factors, they are more likely to endorse prevention efforts (e.g. trying to support an individual in building their prosocial skills to prevent future aggression).

Some authors have suggested that individuals perceive specific causes for aggression to enhance feelings of personal safety (Boxer & Tisak, 2003; Paglia & Room, 1998). For example, individuals may attribute cause of aggression to provocation to feel that it can be avoided, thus feeling safer. As well as such personal influences over interpretation, Jansen, Middel, Dassen and Reijneveld (2006) stress the impact of the work environment upon attitudes, and advocate consideration of social learning theory and modelling in the support of positive attitudes. The authors emphasise the dramatic role of observed behavior (e.g. how others in the environment may react to aggression) and socio-cultural norms (e.g. how aggression is typically viewed by those in the establishment) over the development of attitudes. Clearly this is an issue in forensic settings where aggression is expected to be more commonplace (Palmer & Thakordas, 2005) and therefore attitudes towards this behavior may differ from the general population.

Specific research with forensic samples (e.g. prison officers) has tended to focus on examination of general (e.g. global) attitudes. Research has found that officers may develop attitudes in line with prisoners and fostering antisocial behavior, adopting the cultural values of prisoners (Gendreau & Goggin, 1999). Therefore, it is possible to assume that attitudes permissive of aggression may develop in cultures where aggression is frequent and accepted by the majority.

Research examining prison officer attitudes towards prisoners reports that 'positive' attitudes are linked to effective rehabilitation (Jacobs & Olitsky, 2004; Lambert, Hogan, & Barton, 2002). Craig (2005) highlights the link between positive attitudes expressed by clinicians and effective community rehabilitation of offenders. Furthermore, it has been reported that negative attitudes towards prisoners tend to be more commonplace in establishments where the overall focus of the institution is less rehabilitative and more punitive (Kjelsberg, Hilding-Skoglund, & Rustad, 2007).

Studies have also found sex to be related to positive attitudes, with women officers reporting attitudes more optimistic of change (Kifer, Hemmens, & Stohr, 2003). Specifically, Ireland and Quinn (2007) noted women officers to have attitudes which reflected a greater understanding of self harm in prisoners and were less likely to endorse 'negative myths' than men. This study found no differences in general attitudes towards prisoners. Kjelsberg, Hilding-Skoglund and Rustad (2007) also found no differences on general attitudes according to sex, whilst Jurik (1985) noted no differences on rehabilitation approaches based on sex. However, Paboojian and Teske (1997) cited mixed results regarding the relationship between sex and attitudes. The authors report three studies with no significant relationship found, but one where, after six months of prison employment, men became more 'tough minded' and women less so (Crouch & Alpert, 1982). Ireland and Quinn (2007) have criticised many studies for failing to account for the potential influence of sex over specific attitudes. The authors highlight the finding that women tend to have a greater capacity for empathy and describe this as a significant moderator of attitudes. In addition, when general sex differences are considered, women are typically less accepting of physical aggression than men (Archer, 2004).

Another factor felt to be influential over general attitudes towards prisoners is length of service. It is suggested that the relationship is curvilinear. Crawley (2004) states that newly qualified officers are typically more positive and hopeful. However, once they enter the daily routine of the establishment this may be altered by the culture of the organisation e.g. attitudes expressed by colleagues. In addition 'psychological strain' from the pressures of the job may lead to more negative attitudes being held (Crawley, 2004). It is posited that attitudes may become more positive towards the end of service owing to the perceived reduction of psychological strains and pressures (Regoli, Poole, & Schrink, 1979). Kjelsberg et al. (2007) however, reported no effect of work experience over attitudes. In contrast, some researchers have focused on the level of contact with prisoners whilst on shift, claiming this to impact on attitudes. Farkas (1999) highlights findings where level of contact was noted to increase the degree of punitiveness and unfavourable attitudes towards inmates.

However others have suggested that age, specifically maturation, is more important than length of service (Paboojian & Teske, 1997). Craig (2005) found that younger clinicians working with offenders were more likely to report rehabilitation as a 'waste of time' compared to older clinicians; with those older than 35 expressing more positive general attitudes towards offenders. Farkas (1999) found older officers to be more supportive of rehabilitation efforts, a finding more salient than race or education. Paboojian and Teske (1997) reported two studies where age was related to attitudes towards prisoners, reporting older officers to be more supportive of rehabilitation and treatment than younger officers. Paboojian and Teske (1997) suggested from this that maturation is more influential than experience in the environment over positive attitudes towards prisoners. Whilst general attitudes (e.g. attitudes towards prisoners) appear to have been explored considerably with prison officers, context specific attitudes (e.g. attitudes towards aggression) have not.

The core aim of the current study is to determine whether global *and* context specific attitudes influence the ability to interpret aggression motivation correctly and to select an appropriate intervention strategy (e.g. selecting rehabilitation approaches over punitive measures). Second, the research aims to determine the impact of experience of aggression over attitudes. It will do so by sampling men and women prison officers and requesting them to complete global and specific attitude measures, read a case vignette and identify the motivation for aggression and rate their preferred intervention strategies. The following predictions were made:

1.) That women will report higher positive general attitudes towards prisoners, more non-aggressive context specific attitudes and will select more appropriate aggression motivation and more

rehabilitative intervention approaches, based on previous research (Archer, 2004; Ireland & Quinn, 2007; Jansen et al., 2006; Kifer, Hemmens & Stohr, 2003; Paboojian & Teske, 1997).

2.) That older officers will report more positive general attitudes towards prisoners and more rehabilitation approaches, based on previous research (Craig, 2005; Farkas, 1999; Paboojian & Teske, 1997).

3.) That more experienced officers will report greater positive general attitudes towards prisoners, greater context specific attitudes and show a greater understanding of the motivation of aggression than less experienced officers (e.g. Crawley, 2004; Gendreau & Goggin, 1999; Jansen et al., 2006; Whittington, 2002).

4.) That positive attitudes towards prisoners and non-aggressive attitudes will predict identification of rehabilitation approaches to aggression, whereas negative attitudes towards prisoners and pro-aggressive attitudes will predict identification of punitive approaches (e.g. Brand & Anastasio, 2006; Craig, 2005; Jacobs & Olitsky, 2004, Lambert, Hogan and Barton, 2002).

1. Method

1.1. Participants

One hundred and ten officers participated in the study from two young offender establishments in the North West of England. Site A was a closed site and site B was an open condition establishment.[1] In site A, a total of 300 questionnaires were distributed with 59 completed, representing a 19% response rate. In site B a total of 100 questionnaires were distributed with 51 completed, representing a 51% response rate.

The mean age of the participants was 42 years (age range 20–63 years, SD 9.3). The average length of service within the prison service was 12 years (SD 7.6). Sixty eight percent of the sample were men and 32 percent were women.

1.2. Measures

All officers completed the following measures.

Prison Aggression Scale (PAS; Ireland, Power, Bramhall, & Flowers, 2009): This measure was adapted from the Prison Bullying Scale (PBS©, Ireland, Power, Bramhall & Flowers, 2009), replacing terms specific to bullying to general aggression. The PAS was used to assess attitudes towards aggression between prisoners (e.g. context specific attitudes). The scale contains 39 statements pertaining to attitudes supportive of prison aggression and attitudes not supportive of aggression between prisoners. Participants were asked to rate the extent to which they agreed or disagreed with each statement (1 = Strongly Disagree, 4 = Undecided, 7 = Strongly agree). Items included "Victims ask to be aggressed against" and "It's a good thing to help prisoners who can't defend themselves".

The Attitudes Towards Prisoners Scale (ATP; Melvin, Gramling, & Gardner, 1985) was used to measure general attitudes towards prisoners (e.g. global attitudes). The measure contains 36 statements with statements pertaining to positive attitudes towards prisoners and these concerning negative attitudes towards prisoners. Participants answered whether they agreed or disagreed with each statement (1 = strongly disagree, 3 = Undecided, 5 = strongly agree). Items include "Prisoners are different to most people" and "Bad prison conditions just make a prisoner more bitter".

Two case vignettes were used to assess the impact of attitudes to intervention and support offered. The cases were identical except

for motivation of the aggression; one case was instrumentally aggressive in nature whilst the other was a reactive aggression example. Case vignettes were randomly assigned, with half of the sample answering questions related to the instrumental aggressive case and half completing questions relating to the reactive aggressor case. The vignettes used in the study are in Appendix 1.

Participants were presented with ten options for the motivation of the aggressor and were asked to rate how much the presented options explained the perceived motivation for the aggression, based on the findings of Daffern, Howells, and Ogloff (2007). Participants rated the motivation for the aggression on an eight point Likert scale (1 = best option and 8 = the least appropriate option). For example, "X enjoys aggression" and "X is using aggression to increase social status".

Participants were then presented with ten options for intervention and support and were asked to rate the most appropriate options from the ten specified, on a five point Likert scale (1 = very inappropriate and 5 = very appropriate). For example, "No intervention is necessary, aggression always occurs in this environment" and "Talk to the aggressor and find out why he is acting in this way".

1.3. Procedure

All officers on shift at the time of the study were invited to participate. Officers were asked to complete the questionnaires in their own time and to place them in sealed unmarked envelopes for collection by the researcher later that day. It was stressed that participants' names or staff numbers were not required, and that the questionnaire only required basic descriptive information.

2. Results

This section will present the process and outcome of data screening; reliability coefficients for all measures used in the study, initial exploratory analysis followed by analysis of the hypotheses.

2.1. Data-screening

Prior to analysis data-screening procedures were completed, specifically missing values and outlier analysis. Only randomly missing data were replaced. Correlations were run prior to and after missing data being replaced to ensure the replaced data did not alter the overall data set. Five outliers were identified and removed from the dataset to aid distribution spread. Removal greatly reduced Kurtosis (0.92) and Skewness (0.88). Resulting distribution scores were reduced to acceptable levels when standard errors were accounted for (Kurtosis = -0.29; Skewness = 0.37). The final sample therefore comprised 105 participants.

2.2. Reliability of ATP and PAS

Reliability was assessed using Cronbach's alpha. The 20 negative items in the ATP measure achieved an alpha of 0.90, whilst the 16 positive items on the ATP achieved an alpha of 0.87. The PAS measure obtained an alpha of 0.77, based on 104 participants and 39 items. All scales used in the study thus conformed to an acceptable standard of 0.80 (Howitt & Cramer, 2000).

2.3. Descriptive characteristics of the sample

Officers were asked to report their experience of different forms of aggression between young offenders. The most frequently experienced form of aggression was shouting, reported to occur on a daily basis by 73% of the sample, followed by arguments (60% reported this daily), and indirect aggression (54%). Punching and kicking were the least

---

[1] In terms of security level, young offender institutions in UK are categorised as either 'open' or 'closed'. A closed establishment is a secure establishment having enhanced physical security procedures, whilst an open establishment is less secure with a focus on community reintegration.

frequently experienced forms of aggression, with 13% reporting this occurring daily.

Officers reported the level of contact with young offenders per shift. Fifty percent reported full contact during their shift, 19% reported spending three quarters of their shift with young offenders, 18% reported spending half of their shift, 10% one quarter and 3% no contact at all.

Owing to the variation in open and closed conditions of the two data collection sites and the possible impact of differing environments (Kjelsberg, Hilding-Skoglund & Rustad, 2007), exploratory analysis was performed on this. Analysis of the differences (using one way ANOVA) between the sites revealed *no* significant differences on age or length of service $F_{(1,101)} = 0.103$ ns and $F_{(1,97)} = 1.21$ ns. However, there were significant differences between sites regarding experience of aggression, with the closed site reporting significantly more experience of aggression between prisoners than the open condition site, $F_{(1,102)} = 26.7$, $p < 0.001$.

2.4. Influence of sex and age

Table 1 presents the mean reported attitudes towards prisoners, attitudes towards aggression, selected motivations to explain aggression and preferred interventions. These are presented for men and women and according to age category.

2.4.1. Difference between men and women on global and context specific attitudes

Univariate ANOVA was completed to assess differences in attitudes. No significant effect was observed for positive general attitudes, $F_{(1,103)} = 1.74$ ns. Significant differences were observed on negative general attitudes towards prisoners, $F_{(1,103)} = 4.34$, $p < 0.01$, with men reporting greater negative attitudes than women; and on pro-aggressive attitudes, $F_{(1,102)} = 9.37$, $p < 0.005$, with men reporting more pro-aggressive attitudes than women.

2.4.2. Difference between men and women on motivation and intervention

Univariate ANOVA was completed and found no significant effect in terms of selection of appropriate aggression motivation or rehabilitative approach; $F_{(1,95)} = 0.48$ ns, $F_{(1,99)} = 0.05$ ns respectively.

2.4.3. Difference between older and younger officers on global attitudes and intervention approach

Median split analysis was used to compare older and younger officers by separating them into two groups. The median age of the sample was 43 years. Univariate ANOVA found no significant effects for either global attitudes, $F_{(1,101)} = 0.01$ ns, or rehabilitation approaches, $F_{(1,97)} = 0.34$ ns.

2.4.4. Prediction of attitudes from age, sex and workplace

Multiple regressions (Enter method) were performed to determine whether global attitudes towards prisoners (positive and negative) and specific attitudes towards aggression, could be predicted by the workplace environment, sex or age. Table 2 presents the findings of the regression analyses.

As can be seen in Table 2, the adjusted R^2 value suggests that 25% of the variance in negative attitudes towards prisoners can be attributed to workplace environment (open or closed conditions), sex and age. The overall model fit was significant $F_{(3,99)} = 12.54$, $p < 0.001$. The significant predictors were workplace $\beta = -0.47$ $t = -5.52$, $p < 0.001$ and sex $\beta = -0.15$ $t = -0.53$, $p < 0.01$.

The adjusted R^2 value suggests that 23% of the variance in positive attitudes towards prisoners could be attributed to workplace environment (open or closed conditions), sex and age. The overall model fit was significant $F_{(3,99)} = 10.91$, $p < 0.001$. The significant predictor was workplace $\beta = 0.47$ $t = -5.44$, $p < 0.001$.

In relation to attitudes towards aggression, the adjusted R^2 value suggests that 19% of the variance can be attributed to workplace environment (open or closed conditions), sex and age. The overall model fit was significant $F_{(3,98)} = 9.27$, $p < 0.001$. The significant predictors were workplace $\beta = -0.35$ $t = -3.88$, $p < 0.001$ and sex $\beta = -0.32$ $t = -3.39$, $p < 0.001$.

2.5. Impact of experience on global and context specific attitudes

Table 3 presents the mean total attitudes relating to prisoners (global attitudes) and mean total attitudes towards aggression (context specific attitudes). As can be seen in Table 3 experience was analysed in two ways; general experience in the prison setting (e.g. years service as an officer) and self reported experience of aggression. Thus analysing global and specific experience.

2.5.1. Difference between global attitudes based on experience

Univariate ANOVA found a significant effect based on experience of aggression and positive attitudes, $F_{(1,102)} = 19.34$, $p < 0.001$, those with *less* experience with aggression reported *more positive* attitudes towards prisoners. On negative attitudes, $F_{(1,102)} = 13.53$, $p < 0.001$, those with more experience with aggression reported higher negative attitudes towards prisoners. There were no significant effects based on years experience for positive attitudes, $F_{(1,97)} = 0.45$ ns; or negative attitudes, $F_{(1,97)} = 0.00$ ns.

2.5.2. Difference between context specific attitudes based on experience

Univariate ANOVA found there to be a significant effect based on experience of aggression, $F_{(1,101)} = 12.42$, $p < 0.001$, with those more experienced with aggression reporting higher pro-aggressive attitudes. There was no significant effect based on years experience, $F_{(1,96)} = 3.25$ ns.

2.6. Ability to identify motivation of aggression

Table 4 presents the mean total appropriate motivations and inappropriate motivations. This is presented based on case vignette and also based on experience of aggression.

Table 1
Mean attitude, motivation and intervention scores.

	Men			Women			Younger officers			Older officers		
	n	Mean	SD	n	Mean	SD	n	Mean	SD	n	Mean	SD
Positive attitudes towards prisoners	71	50.6	12.0	34	53.1	8.6	52	51.2	8.9	51	51.3	9.9
Negative attitudes towards prisoners	71	58.5	9.7	34	53.4	11.5	52	57.6	11.4	51	56.5	12.8
Attitudes towards aggression[a]	71	84.7	17.3	33	74.3	13.2	52	82.3	15.6	50	80.3	18.1
Appropriate motivation	67	8.7	5.0	30	8.2	4.9	50	8.5	5.3	45	8.6	4.8
Rehabilitation strategies	70	18.9	7.8	31	19.3	8.2	51	19.4	7.5	48	18.5	8.3

[a] A high score on this scale indicates a pro-aggressive attitude, whilst low scores suggest attitudes not supportive of aggression in the prison setting.

Table 2
Prediction of attitudes based on workplace setting, sex and age (n = 102).

	Negative Attitudes Towards Prisoners (ATP scale)			Positive Attitudes Towards Prisoners (ATP scale)			Attitudes Towards Aggression (PAS scale)		
	B	SE B	β	B	SE B	β	B	SE B	β
Workplace	− 11.37	2.06	− 0.47**	8.92	1.64	0.47**	− 11.57	2.99	− 0.35**
Sex	− 5.77	2.28	− 0.15*	2.95	1.82	0.11	− 11.33	3.34	− 0.32**
Age	− 0.19	0.12	− 0.22	0.11	0.09	0.15	− 0.31	0.17	− 0.17
R^2		0.25			0.23			0.19	
F		12.54**			10.91**			9.27**	

* $p < .01$.
** $p < .001$.

2.6.1. Analysis of aggression type

Univariate ANOVA was completed to ensure the two case vignette groups (those with the instrumental aggression example and those with the reactive aggression example) were matched. There were no significant differences according to reported experience of aggression, age, length of service or contact with offenders; $F(1,101) = 3.01$ ns, $F(1,100) = 0.04$ ns, $F(1,96) = 0.59$ ns, $F(1,102) = 0.09$ ns.

2.6.2. Difference on selected motivation based on type of aggression

Univariate ANOVA was used to determine if aggression type in the case vignette impacted on the ability to identify an appropriate motivation for the aggression. Participants with the instrumental aggressive example were less likely to identify appropriate explanations for the aggression, $F(1,95) = 41.87$, $p < 0.001$, and were more likely to identify incorrect explanations for the behavior, $F(1,94) = 19.25$, $p < 0.001$ than those with the reactive aggressive example.

2.6.3. Difference on selected motivation based on experience of aggression

Univariate ANOVA was completed to determine if reported experience of aggression impacted on ability to identify appropriate and inappropriate explanations for the behavior. There were no significant effects, $F(1,94) = 0.33$ ns, $F(1,93) = 0.22$ ns.

2.6.4. Prediction of motivation from global and context specific attitudes

Two multiple regressions (Enter method) were performed to determine whether general attitudes towards prisoners (global attitudes) and attitudes towards aggression (context specific attitudes) were predictive of an ability to identify correct or incorrect explanations for aggression. The overall models were not significant; $F(3,93) = 1.03$ ns and $F(3,92) = 0.34$ ns.

2.7. Ability to identify appropriate intervention for aggression

The mean total rehabilitation interventions and punitive interventions identified as appropriate for aggression are presented in Table 4.

Table 3
Mean total attitude scores based on years experience and reported total experience of aggression.

	n	Negative attitudes towards prisoners		Positive attitudes towards prisoners		Attitudes towards aggression	
		Mean	SD	Mean	SD	Mean	SD
Less experienced officers (years service)	50	57.6	16.6	51.6	9.5	78.9	16.6
More experienced officers (years service)	49	57.6	12.0	51.6	9.5	85.0	16.6
Less experience of aggression	52	52.8	11.3	55.0	8.5	75.9	14.9
More experience of aggression	52	61.0	11.6	47.6	8.8	86.9	17.1

2.7.1. Difference on preferred intervention based on type of aggression

Univariate ANOVA was used to determine if aggression type in the case vignette impacted on the ability to identify rehabilitation or punitive interventions for the aggression. There were no significant effects, $F(1,99) = 1.01$ ns and $F(1,97) = 2.67$ ns.

2.7.2. Difference on preferred intervention based on experience of aggression

Univariate ANOVA showed experience of aggression to impact significantly on the selection of rehabilitation approaches, with those less experienced with aggression selecting more rehabilitation approaches, $F(1,98) = 18.37$, $p < 0.001$ than those more experienced. However experience of aggression did not impact on selection of punitive approaches, $F(1,96) = 1.03$ ns.

2.7.3. Prediction of intervention approach from global and context specific attitudes

Two multiple regressions (Enter method) were performed to determine whether general attitudes towards prisoners (global attitudes) and attitudes towards aggression (context specific attitudes) were predictive of ability to identify interventions for aggression.

The overall model fit was significant for prediction of rehabilitation approaches, $F(3,97) = 9.67$, $p < 0.001$. The adjusted R^2 value indicated that 20% of the variance in selection of rehabilitation approaches could be accounted for by global and context specific attitudes. Negative attitudes towards prisoners and pro-aggressive attitudes were negatively related to rehabilitation approaches. There were no significant predictors; negative attitudes towards prisoners, $\beta = -0.11$, $t = -0.64$ ns; positive attitudes towards prisoners, $\beta = 0.27$, $t = 1.73$ ns and attitudes towards aggression, $\beta = -0.19$, $t = -1.79$ ns.

The overall model fit for selection of punitive approaches was not significant, $F(3,95) = 0.68$ ns.

3. Discussion

The present study found that women reported fewer attitudes supportive of aggression than men, with men reporting more general negative attitudes towards prisoners. There was no observed effect of age or years experience. However, experience of aggression did impact both on global and context specific attitudes. There was no observed impact of global or context specific attitudes on perception of motivation for aggression. However, the type of aggression did influence this. In contrast, global and context specific attitudes accounted for one fifth of the variance in rehabilitative intervention approaches, with more negative general attitudes and pro-aggressive attitudes negatively related to rehabilitation approaches.

The current study found that sex did impact on global attitudes towards prisoners, with men reporting more negative attitudes than women, in contrast to previous research (Ireland & Quinn, 2007; Kjelsberg, Hilding-Skoglund & Rustad, 2007). This is in contrast to the prediction, where it was expected that women would be more

Table 4
Mean identified motivations for aggression and preferred intervention strategies.

		n	Appropriate motivation identified		Inappropriate motivation identified		n	Rehabilitative approach		Punitive approach	
			Mean	SD	Mean	SD		Mean	SD	Mean	SD
Aggression type	Instrumental	51	5.9	3.5	31.2	5.6	54	18.5	8.2	14.9	2.4
	Reactive	46	11.4	4.8	26.2	5.7	47	19.9	7.5	14.0	2.5
Experience of aggression	Less experience	47	8.4	4.6	28.6	5.9	51	22.0	7.7	14.2	2.6
	More experience	49	8.6	5.4	29.2	6.5	49	15.8	6.8	14.7	2.3

positive overall. The study did find an impact of sex on context specific attitudes, with women reporting fewer pro-aggressive attitudes than men, in line with previous research (Archer, 2004). This finding is not wholly consistent with Behaviour Reasoning Theory. That is, it might be expected that women in the current study may be more accepting of aggression simply by their reported increased experience of it than women in the general population. The current research is perhaps highlighting the influential role of sex differences over attitudes. Despite these observed differences in attitudes according to sex, the study found no impact of sex on intervention approaches or motivation identified, contrasting to the findings of Jansen et al. (2006).

Despite past findings that age influenced general attitudes and interventions approaches (Craig, 2005; Farkas, 1999; Paboojian & Teske, 1997) the present study found no impact of age, disproving the hypothesis that older officers would be more positive and rehabilitative in their approach. One reason for this may be related to the average age of the sample. In past research the average age was younger than in the present study (age 35 in previous research compared to 42 in the current research). It may be that the present study did not have enough of a range to accurately compare older and younger officers.

The present study did not find that experience in terms of length of service impacted on attitudes, replicating Kjelsberg, Hilding-Skoglund and Rustad (2007). However, the present study also assessed the impact of reported context specific experience, e.g. experience of aggression, over attitudes and found this to be influential. The study found those reporting *less* experience of aggression between prisoners reported higher positive general attitudes towards prisoners. This disproves the hypothesis where it was predicted that more experience would lead to positive general attitudes. In contrast, the officers reporting *more* experience of aggression between prisoners reported higher general negative attitudes towards prisoners and higher pro-aggressive attitudes. This reinforces the finding of Whittington (2002) where more experience leads to more tolerance of aggression, e.g. being more supportive of aggression in this context by reporting more pro-aggressive attitudes. These findings do appear to support Behaviour Reasoning Theory (Westaby, 2005), specifically that context specific attitudes are influenced by situations and can lead to changes in global attitudes. The current study suggests that differences in reported exposure to aggression have impacted on both global and context specific attitudes.

In addition, *less* reported experience of aggression between prisoners was noted to lead to a greater preference for rehabilitation interventions and not more experience as was hypothesised. This contrasts to the findings in nursing contexts where *more* experience of aggression and *more* tolerance of aggression lead to rehabilitative approaches (Whittington, 2002; Whittington & Higgins, 2002). It may be that the present finding has highlighted differences between healthcare and prison settings. It is suggested that the increased tolerance in healthcare settings is due to pro-aggressive attitudes, seeing aggression as functional for the individual. This is not replicated with this forensic sample, pro-aggressive attitudes do *not* appear to link to rehabilitation approaches.

Furthermore, the current study suggests that global and context specific attitudes do *not* influence individual understanding of aggression (e.g. an individual's perception of motivation of aggression). However the present study did find that aggression type influenced this, with the instrumental aggressive example leading to selection of fewer appropriate explanations and more inappropriate explanations than the reactive aggressive example. This is an interesting finding in that previous research has stated professionals find it hard to distinguish between aggression types (Daffern & Howells, 2007) but previous research does not appear to have examined the link between *types* of aggression and how this impacts on understanding aggression. This is likely to have implications for clinical practice. This will be discussed later.

The findings appear to highlight the influence of global and context specific attitudes over rehabilitation approaches but not over punitive approaches. The current research suggests that rehabilitation and punishment are two separate concepts and that the absence of a rehabilitative approach does not automatically suggest a punitive one. Specific analysis of the impact of attitudes over intervention approach suggested that 21% of the variance in rehabilitation approaches could be explained by positive general attitudes and non-aggressive context specific attitudes. Positive general attitudes towards prisoners were the strongest individual predictor in the model. This perhaps shows support for the claim of Brand and Anastasio (2006) that an individual's understanding of the causes of behavior links to their chosen method of intervention. For example, if the individual feels prisoners are capable of change then they are likely to feel rehabilitation should be provided.

The present study found that work environment (whether open or closed conditions) impacted on level of experience with aggression from prisoners, general (global) attitudes towards prisoners and context specific attitudes towards aggression. Those in closed conditions reported more experience of aggression from prisoners, expressed higher negative general attitudes towards prisoners (in line with Kjelsberg, Hilding-Skoglund & Rustad, 2007), and higher pro-aggressive attitudes. This finding also lends support for Behaviour Reasoning Theory (Westaby, 2005), where the environment can lead to changes in both general and context specific attitudes. In addition this reinforces the claim of Jansen et al. (2006) who stressed the influential role of the work environment.

The present study has a number of important applications. First it would appear that workplace setting has an impact over attitudes and experience of aggression. The impact of this experience appears to lead to more negative views of prisoners and more pro-aggressive attitudes, which is perhaps concerning. The Interactional Model of prisoner bullying (Ireland, 2002) is perhaps useful to apply at this juncture in that it is one of the few prison models developed and it stresses the influence of attitudes supportive of aggression in facilitating aggression. Therefore it seems likely that all establishments, especially those more secure where aggression is more commonplace, need to reinforce the importance of not being tolerant of aggression. This may ensure that aggression is reduced.

Another important clinical finding of the research is the difference between understandings of aggression according to type of aggression. The research showed that instrumental forms of aggression lead to

greater selection of inappropriate explanations than the reactive aggressive case vignette. Establishments may need to ensure that training is given on the possible motivation for aggression. This is important as mis-identification of the causes (i.e. perceived motivation) of aggression is likely to lead to inappropriate intervention (Ireland, 2008; McDougall, Clark, & Fisher, 1994).

However, this particular finding may highlight a limitation with the study. The study did not employ a matched independent subjects design; participants completed either the instrumental aggressive case example *or* the reactive aggressive example. It may be that those who misidentified the cause of the instrumental aggression would also misidentify the cause of the reactive example, thereby being an individual difference and not specifically related to the type of aggression per se. However, it is important to note that, whilst groups were not matched, there were no significant differences between either vignette group according to experience of aggression, age, length of service and contact with young people. Another limitation of the present study may be the potential biases in responses. It is possible that the reported attitudes do not accurately reflect the true attitudes held, with participants perhaps feeling they could not honestly report their true views for fear of reprisal. In addition recent research appears to suggest that individuals can hold multiple contrasting context dependent attitudes (Ajzen, 2001). This is perhaps a difficulty in the measurement of an internal construct such as attitudes.

In conclusion, this study has noted significant influences of experience of aggression over global and context specific attitudes, thereby lending support to Behavioural Reasoning Theory. This study replicated past findings with regards to sex differences in attitudes towards aggression but this was not found to impact on understanding of aggression or intervention approaches. Future research may wish to explore the observed sex differences and noted difficulties appropriately identifying the motivation for instrumental aggression and compare to the general population.

Appendix 1. Case vignettes used in research

Instrumental Aggression Case Vignette

Background

Steven has received a two year custodial sentence for a violent offence, namely robbery. Steven has never been in custody before but has committed a number of previous offences, predominantly theft offences with more recent acts of robbery. Steven has been in the care system from a young age, when his mother felt she could no longer care for him. Steven reports learning he had to look out for himself as he could not rely upon others for this.

The incident

It is alleged that Steven has been obtaining goods from other young people in the establishment. The reported information suggests that Steven has been threatening physical violence if he does not obtain the goods he requests and his peers feel intimidated by Steven. It appears that Steven plans and looks for opportunities to aggress towards others in order to acquire status.

Reactive aggression case vignette

Background

Steven has received a two year custodial sentence for a violent offence, namely robbery. Steven has never been in custody before but has committed a number of previous offences, predominantly theft offences with more recent acts of robbery. Steven has been in the care system from a young age, when his mother felt she could no longer care for him. Steven reports learning he had to look out for himself as he could not rely upon others for this.

The incident

It is alleged that Steven has been physically and verbally aggressive towards other young people in the establishment. The reported information suggests that Steven has been threatening physical violence and his peers feel intimidated by Steven. It would appear Steven does this during times of stress and when he feels angry.

References

Ajzen, I. (1991). The theory of planned behavior. *Organization Behavior and Human Decision Processes*, *50*, 179–211.

Ajzen, I. (2001). Nature and operation of attitudes. *Annual Review of Psychology*, *52*, 27–58.

Archer, J. (2004). Which attitudinal measures predict trait aggression? *Personality and Individual Differences*, *36*, 47–60.

Boxer, P., & Tisak, M. S. (2003). Adolescents attributions about aggression: An initial investigation. *Journal of Adolescence*, *26*, 559–573.

Brand, P. A., & Anastasio, P. A. (2006). Violence related attitudes and beliefs: Scale construction and psychometrics. *Journal of Interpersonal Violence*, *21*, 856–868.

Craig, L. (2005). The impact of training on attitudes towards sex offenders. *Journal of Sexual Aggression*, *11*, 197–207.

Crawley, E. (2004). *Doing prison work: The public and private lives of prison officers.* UK: Willan Publishing.

Crouch, B. M., & Alpert, G. P. (1982). Sex and occupational socializations among prison guards: A longitudinal study. *Criminal Justice and Behavior*, *9*, 159–176.

Daffern, M., & Howells, K. (2007). Antecedents for aggression and the function analytic approach to the assessment of aggression and violence in personality disordered patients within secure settings. *Personality and Mental Health*, *1*, 126–137.

Daffern, M., Howells, K., & Ogloff, J. (2007). What's the point? Towards a methodology for assessing the function of psychiatric inpatient aggression. *Behaviour Research and Therapy*, *45*, 101–111.

Farkas, M. A. (1999). Correctional officer attitudes towards inmates and working with inmates in a "get tough era". *Journal of Criminal Justice*, *27*, 495–506.

Gendreau, P., & Goggin, C. (1999). The effects of imprisonment on recidivism. http://ww2.ps-sp.gc.ca/publications/corrections/199912_e.pdf

Hahn, S., Needham, I., Abderhalden, C., Duxbury, J. A. D., & Halfens, R. J. G. (2006). The effect of a training course on mental health nurses attitudes on the reasons of patient aggression and its management. *Journal of Psychiatric and Mental Health Nursing*, *13*, 197–204.

Hayes, N. (2000). *Foundations of psychology* (3rd ed.). London: Thomson Learning.

Howitt, D., & Cramer, D. (2000). *An introduction to statistics in psychology: A complete guide for students* (2nd ed.). Hemel Hempstead: Prentice Hall.

Ireland, J. L. (2002). *Bullying among prisoners: Evidence, research and intervention strategies.* London: Brunner-Routledge.

Ireland, J. L. (2008). Conducting individualised theory-driven assessments of violent offenders. In Ireland, & Birch (Eds.), *Assessment, treatment and management of violent and sexual offenders.* London: Willan.

Ireland, J. L., Power, C. L., Bramhall, S., & Flowers, C. (2009). Developing an attitudes towards bullying scale for prisoners: Structural analyses across adult men, young adults and women prisoners. *Criminal Behaviour and Mental Health*, *19*, 28–42.

Ireland, J. L., & Quinn, K. (2007). Officer attitudes towards adult male prisoners who self harm: Development of an attitudinal measure and investigation of sex differences. *Aggressive Behaviour*, *33*, 63–72.

Jacobs, J. B., & Olitsky, E. (2004). Leadership and correctional reform. *Pace Law Review*, *24*, 477–495.

Jansen, G. J., Dassen, T. W., Burgerhof, J. G., & Middel, B. (2006). Psychiatric nurses' attitude towards inpatient aggression. Preliminary report of the Development of the Attitude Towards Aggression Scale (ATAS). *Aggressive Behaviour*, *32*, 44–53.

Jansen, G. J., Middel, B., Dassen, T. W., & Reijnveld, M. S. A. (2006). Cross cultural differences in psychiatric nurses attitudes to inpatient aggression. *Archives of Psychiatric Nursing*, *20*, 82–93.

Jurik, N. C. (1985). Individual and organisational determinants of correctional officer attitudes towards inmates. *Criminology*, *23*, 523–540.

Kifer, M., Hemmens, C., & Stohr, M. K. (2003). The goals of corrections: Perspectives from the line. *Criminal Justice Review*, *28*, 47–69.

Kjelsberg, E., Hilding-Skoglund, T., & Rustad, A. B. (2007). Attitudes towards prisoners, as reported by prison inmates, prison employees and college students. *BMC Public Health*, *7*, 71.

Kockler, T. R., Stanford, M. S., Meloy, J. R., Nelson, C. E., & Sanford, K. (2006). Characterising aggressive behaviour in a forensic population. *The American Journal of Orthopsychiatry*, *76*, 80–85.

Lambert, E. G., Hogan, N. L., & Barton, S. M. (2002). Satisfied correctional staff. A review of the literature of the correlates of correctional staff job satisfaction. *Criminal Justice and Behaviour*, *29*, 115–143.

McDougall, C., Clark, D. A., & Fisher, M. J. (1994). Assessment of violent offenders. In McMurran, & Hodge (Eds.), *The assessment of criminal behaviours of clients in secure settings.* London: Jessica Kingsley Publishers.

Melvin, K. B., Gramling, L. K., & Gardner, W. M. (1985). A scale to measure attitudes towards prisoners. *Criminal Justice and Behavior*, *12*(2), 241–243.

Paboojian, A., & Teske, R. H. C. (1997). Pre-service correctional officers: What do they think about treatment? *Journal of Criminal Justice*, *25*, 425–433.

Paglia, A., & Room, R. (1998). Alcohol and aggression: General population views about causation and responsibility. *Journal of Substance Abuse*, *10*, 199–216.

Palmer, E. J., & Begum, A. (2006). The relationship between moral reasoning, pro-victim attitudes and interpersonal aggression among imprisoned young offenders. *International Journal of Offender Therapy and Comparative Criminology, 50*, 446–457.

Palmer, E. J., & Thakordas, V. (2005). Relationship between bullying and scores on the Buss–Perry Aggression questionnaire among imprisoned male offenders. *Aggressive Behaviour, 31*, 56–66.

Ramirez, J. M., & Andreu, J. M. (2006). Aggression and some related psychological constructs (anger, hostility and impulsivity): Some comments from a research project. *Neuroscience and Behavioural Reviews, 30*, 276–291.

Reeder, G. D., Kumar, S., Hesson-McInnis, M. S., & Trafimow, D. (2002). Inferences about the morality of an aggressor: The role of perceived motive. *Attitudes and Social Cognition, 83*, 789–803.

Regoli, R. M., Poole, E. D., & Schrink, J. L. (1979). Occupational socialisation and career development: A look at cynicism among correctional workers. *Human Organisation, 38*, 111–124.

Westaby, J. D. (2005). Behavioural reasoning theory: Identifying new linkages underlying intentions and behaviour. *Organisational Behaviour and Human Decision Processes, 98*, 97–120.

Whittington, R. (2002). Attitudes toward patient aggression amongst mental health nurses in the 'zero tolerance' era: Associations with burnout and length of experience. *Journal of Clinical Nursing, 11*, 819–825.

Whittington, R., & Higgins, L. (2002). More than zero tolerance? Burnout and tolerance for patient aggression amongst mental health nurses in China and the UK. *Acta Psychiatrica Scandinavica, 106*, 37–40.