

EMOTIONAL LITERACY IN FEMALE OFFENDERS

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by L. M. Callow

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## **ABSTRACT**

The BarOn EQ-i model of emotional intelligence and Factor 1 of Hare's Psychopathy Checklist-Revised: Screening Version were used to assess emotional literacy and callous-unemotional traits in sixty female offenders. Findings suggest that female offenders show significant emotional literacy deficits compared to the normal population especially in areas of empathy, social responsibility and interpersonal relationships. This association was examined further in relation to criminal history variables; seriousness and chronicity. Emotional literacy was predictive of criminal history, but not offender type. Contrary to expectations, callous-unemotional traits only showed a few relations to emotional literacy namely, significant correlations between PCL: SV Factor 1 score and aspects of problem solving. Violent offenders with high callous-unemotional traits showed significantly more emotional literacy deficits than non-violent offenders with high callous-unemotional traits, especially in interpersonal and adaptability emotional literacy areas. Interestingly those that demonstrated suicidal ideation regardless of offence type showed the poorest emotional literacy abilities and were more likely to show higher levels of callous-unemotional traits. The implications and recommendations for future research as well as the limitations of the study are discussed.

## INTRODUCTION

The goal of this research paper is to explore emotional literacy in female offenders. The role that emotional literacy may have in a) identifying those with specific emotional deficits, b) classifying subgroups of offenders e.g. violent or non-violent and c) the potential link between callous-unemotional traits and emotional literacy is explored.

Previous work has stated that understanding our own emotions and those of others is essential for a successful life, (BarOn, 2005; Clore & Parrott, 1991; Forgas, 1991b; Frijda, 1993; Lazarus, 1991; Schwarz & Bless, 1991). Deficient emotional processing has been associated with a variety of internalizing problems such as poor self esteem, depression, rigid goal choices, less flexibility and externalizing problems such as aggression and hostility that lead to poor interpersonal relationships(Liau, Liau, Teoh, & Liau, 2003).

Emotional literacy (EL) is a construct that focuses an array of emotional functioning abilities and it has been suggested that EL can be a measure of success in life (BarOn, 1997) Based on the core elements of EL such as interpersonal and intrapersonal abilities it is assumed that those who show emotional deficits and little success in life (in terms of jobs, money, satisfaction) will show low EL. Low levels of EL have been associated with less empathy towards others and the inability to manage moods (Ciarrochi, Chan, Caputi, & Roberts, 2001), higher levels of alexithymia (Parker, Taylor, & Bagby, 2001) as well as higher levels of depression, neuroticism and stress (BarOn, 1997; Lopes et al., 2004). It is therefore essential to understand the processes of emotional processing and how deficient processing of emotion affects people.

It is conceivable that offenders who show many emotional deficits and show little success in life are a specific population that are likely to have EL deficits. Low EL has been described as “a pivotal factor underlying most crime”(Foundation, 1998). From the research to date it appears that many offenders show significant deficits in emotional processing (Aucoin, 2005; Curtis, 1990; Kroner & Forth, 1995 ). Because EL can be learnt, (Elias, Hunter, & Kress, 2001 ,BarOn, 1997; Sharp, 2001) it is possible that teaching EL within a population that show poor emotional abilities and early tendencies for antisocial behaviour may prove an effective intervention and reduce offending rates

(Casarjian, Johnson, & West, 1995). In fact, a specific EL intervention program with offenders was associated with significant personal transformations in emotional maturity, hopefulness and morality among prisoners and on scales of depression, hostility, alexithymia, mindfulness and community (Casarjian & Phillips, 2005).

Female offender samples are consistently overlooked (Salekin, Rogers, Ustad, & Sewell, 1998). This is most likely due to the fact that there are far fewer females in the correction system than males. However, of late female offending has been on the increase and thus understanding female offending; trajectories, causes and implications is particularly important. Female offenders show emotional processing deficits that are different to male offenders, (Calhoun, 2001; Loucks & Zamble, 1994) and consequently results on EL scales are expected to be specific to the female offender population.

High callous-unemotional (CU) traits are often found in children who show severe antisocial behaviour. Researchers have made suggestions that children with CU traits may designate a specific subgroup that will turn into adults with psychopathy (Barry et al., 2000; Frick, 1998; Pardini, Lochman, & Frick, 2003). Children with CU traits show many emotional processing deficits, similar to those with psychopathic personalities. Therefore, identifying subgroups of children who show CU traits and low EL may help identify those at early risk for offending and allow for intervention.

This research begins with an extensive review of the current research that focuses on offenders and emotion, specifically research that deals with EL, CU and offending. This review of the current research forms the platform from which my research springs from. Female offender scores on the EQ-i will be compared to a pre-existing normative sample and within the offender group, comparing violent and non-violent offenders. Relations between EL and CU traits will be examined in this sample also.

# CHAPTER ONE

## 1. Literature Review

### *1.1 Emotion*

#### 1.1.1 History

The latin root of emotion is “movere” meaning ‘to move’ and the addition of the ‘e’ means ‘to disturb’ or ‘move away’. Philosophers of the 19<sup>th</sup> century, Plato, Aristotle and Descartes drew upon the Latin root of emotion to formulate theoretical concepts of emotion. They regarded emotions as responses to events or to a subject that triggered bodily changes and motivated characteristic behaviours.

Many of the twentieth-century philosophers and psychologists neglected emotions in their work. They saw emotions as being too subjective and unreliable to be used constructively in society; a subordinate to reason and cognition (Lazarus, 1991) and were often reduced to an inferior kind of reason, a “confused perception” or “distorted judgment”(Solomon, 2000, pg. 3). Currently, emotion is often regarded as the antithesis of reason (Huber, 2007). The sayings “your emotions have taken over” and “appeal to your emotions” compliment this notion. Even though emotion is often seen as the opposite to reason, it still has the ability to facilitate thinking rather than hinder it by triggering and guiding cognitive processes and influencing reason (Pizarro & Salovey, 2002)

#### 1.1.2 Theories

Theories of emotion attempt to explain the relationship between factual events and the subjective emotional experiences (Sharp, 2001). Emotion research became popular after Darwin’s 1872 “the origin of species” (Darwin, 1872). Darwin first postulated in the 19<sup>th</sup> century that emotions evolved via their adaptive value in dealing with fundamental tasks (natural selection) (Ekman, 1992). Based on Darwin’s evolutionary principles many theorists believe that emotions are response tendencies or states of readiness for adaptive behaviour (Izard, 1977; Lang, Bradley, & Cuthbert, 1998; Patrick & Zempolich, 1998; Sharp, 2001). For example Plutchick (1980) believed that there were a few basic emotions such as acceptance, disgust, anger and sadness that served adaptive roles in helping organisms deal with key survival issues like protection,

reproduction, exploration and rejection. From this evolutionary perspective came the idea that emotions were states of readiness (Frijda, 1993) and were innate (Izard, 1977) and universal (Ekman, 1992). From this research it appears that emotions may be universal, hardwired action tendencies.

From the evolutionary research, Izard (Izard, 1977) came up with the differential emotion theory. This theory's point is that emotion is a determinant in a wide range of behaviours and give meaning and significant to human existence. Izard believes that emotions affect us via perception, actions and personality development. For example perception can be swayed via emotions; a joyful person sees the world through *rose-coloured glasses*. Izard believed that cognition and emotion interact by affecting memory, thinking and imagination for example an angry person is inclined to have angry thoughts. Lastly emotions affect our personality development. A person's genetics and individual experiences in learning about emotions affect personalities, such as having a negative temperament or a low threshold for anger. Because of the emotional processing implications in all aspects of life, Izard suggests that a definition of emotion must include the experience of emotion, the processes that occur in the brain and nervous system and the observable expression of emotion.

Many different positions are debated about the relationship between cognitive process and emotion. Cognition is a term used to describe a group of related but diverse information-processing functions, including sensory processing, perception, imagery, attention, memory, reasoning, and problem-solving. However, debate exists over whether emotional cues facilitate retrieval of information or if emotion is influenced by cognitions, which give meaning to undifferentiated emotional arousal (Aucoin, 2005; Forgas, 1991a). Cognitive theorists attempt to qualify the relationship between cognition and emotion. Most cognitive theories contend that cognitive appraisals of the environment is an underlying causal explanation for emotional processes (Huber, 2007), although Kaplan (1991) suggests that events can simultaneously produce affect and cognition and that social judgment is the joint product of both. The idea that cognitive processes and emotion are tightly related has been gaining ground, although disagreement over the extent of the relationship continues.

Although emotion had its beginnings as an ‘inferior reason’ it has now evolved to where it is seen as a guide to cognitive processes and a large influence on reason. Neuro-physiological studies suggest that emotion processes and cognitive processes influence one another and may be different types of information processing which serve different functions but which are integrally related (Lerner & Arsenio, 2000). Whether emotion causes cognitive appraisals, or vice versa, it is clear that emotions and cognition must work together.

### *1.2 Emotion explained*

Based on the debate surrounding emotion function and cause, an accurate description of emotion is a continual problem (Frijda, 1993; Zajonc, 2000). However, there is consensus that emotions are universal states of readiness that draw on physiological, cognitive, and behavioural systems to aid in responding to a situation (Aucoin, 2005). Emotions can directly affect perception of a situation, speed of processing information, what we think, how we act in response (Zajonc, 2000), how we address different adaptive problems, the preparation for rapid motor responses and provides information about the organism and its environment (Gross, 1998).

Emotions are different from moods. Emotions are more intense, short lived and usually have a more definite cause and clear cognitive content than moods. Moods are diffuse and unfocused, a general and pervasive feeling state that is not directed toward a specific target (Leary, 2000) and contain little cognitive content (Forgas, 1991b). Moods have the ability to change what we view in a certain situation by colouring our thoughts and responses (Frijda, 1993; Mayer & Salovey, 1997). This mood congruent affect is an example of how mood can colour our perception and is important to how representations of the world are organized in our memories (Forgas, 2001), for example, positive moods lead to more creative styles of thinking and have been linked to better concentration, memory, problem solving and learning skills whereas negative moods encourage careful deliberate ways of thinking which can cause people to elaborate more on their problems (Pizarro & Salovey, 2002).

Overall emotions are innate psychological states that interact with cognitions to motivate action. They are intense, short lived and affect every aspect of our lives.

Emotions affect our social and personal lives enormously through the actions that they motivate.

Most emotions are associated with an action tendency, for example, anger is associated with the tendency to attack, fright with escape, (Lazarus, 1991) and guilt motivates pro-social behaviours (Eisenberg, Fabes, & Losoya, 1997). Because emotions are powerful motivators of action they are also important in the process of socialization. Emotions convey information about people's thoughts and intentions and serve to coordinate social encounters (Lopes, Salovey, Cote, & Beer, 2005). Emotions have the ability to inform us about others and they can script our behaviour. For instance an angry episode may cause changes in posture, facial movements, tone of voice, verbal expression and changes in autonomic responding. As well as the behavioural and biological changes that may occur when an emotion is experienced, the instigator, social context, sequence of responses and consequences of the expression of that emotion are all involved too (Gross, 1998).

Emotional responding reflects a complex mix of primitive, action oriented centres and other brain systems (Ekman, 1992; Izard, 1977). Emotions can affect us through electrophysical changes in the muscles and face, changes in electrical activity in the brain and increased heart rate (Izard, 1977). Behavioural indices such as the startle blink response, gaze aversion; muscle activation and skin conductance can be used to measure these physiological effects of emotion. These measures may tap into both conscious and unconscious emotional understanding (Lee, Miller, & Moon, 2004).

The inability to understand emotion can lead to large deficits in life function. Emotional abilities (or lack thereof) can have immense implications in the field of mental health. The DSM-IV TR (American Psychiatric Association, 2000) implicates emotion dysregulation in over half of the axis I disorders and in all of the axis II disorders, therefore emotion is extremely important for our mental well being, The strong integration of emotional dysfunction in the health system has led to research into many aspects of emotion functioning, especially emotional literacy which studies emotional abilities and the impacts they have on life function; socially and personally.

Because of the link between emotion and cognition, research into emotional components of 'intelligence' has become popular. This surge in emotional research led to the development of emotional literacy which draws cognition and behaviour into a single theory that attempts to explain the way we encode interpret and select emotional responses to situations in our everyday lives (Savage, 2002). Through utilising cognitive processes emotional literacy (EL) is able to address many aspects of social functioning that are essential for the successful navigation of the environment and its demands.

### *1.3 Emotional Literacy*

#### 1.3.1 Conceptual Beginnings

For many years psychologists have been trying to label and define intelligence and a similar approach has recently occurred in the definition and study of emotional literacy. For the past century intelligence has been measured by the IQ (intelligence quotient), which endeavours to explain ones stable cognitive capacity and functioning over time. It was thought that traditional measures of intelligence such as the IQ test failed to fully explain cognitive abilities (Smith, 2000) as IQ has been found to contribute only 20-25% of variance in individual attainment and performance, other variables must add to performance and attainment (Dulewicz & Higgs, 1999).

Up until the 1970s emotion and intelligence were treated as separate areas in research (Mayer, Ciarrochi, & Forgas, 2001). Research combining emotion and intelligence into a single concept "Emotional Intelligence", originated with Peter Salovey and John Mayer in the late 1980s and early 90s. Mayer (2001) integrated aspects of Thorndike's (1920) term "social intelligence", which was used to describe the skill of getting along with other people, and Gardner's (1975) idea of multiple intelligences such as interpersonal and intrapersonal intelligence into an emotional intelligence framework (Petrides, Frederickson, & Furnham, 2004).

The Emotional Intelligence framework organizes the growing body of research on emotions and their influence on cognition and behaviour into a single theory that highlights the way individuals use these skills in their everyday lives (Pizarro & Salovey, 2002). Changes in definitions has led to a concept that addresses the emotional, personal, social and survival dimensions of intelligence, which are often more important

for daily functioning than more traditional cognitive aspects of intelligence (BarOn, 1997). EL includes understanding oneself and others, relating to people, and adapting to and coping with the immediate surroundings to be more successful in dealing with environmental demands (BarOn, 1997; Sharp, 2001)

The construct of Emotional Intelligence as a ‘real intelligence’ is hotly debated (for a detailed overlook see Matthews, 2002; Mayer, 1999; Mayer, 1997; Mayer, 2001; Salovey, 1990}. Current definitions of EQ (the emotional quotient) are inconsistent about what it measures, some say that EQ is dynamic, and can be learned or increased (an intelligence that is malleable; EL) and others like Mayer say that it is stable and cannot be increased (a fixed intelligence (Mayer & Salovey, 1997). These distinctions are not critical to the research proposed here, and I will use the term “Emotional Literacy” but will abstain from the argument.

### 1.3.2 Models and Definitions

EL is defined differently depending on the model of EL that it is representing. There are two main models, namely ability models and mixed models. Ability models of EL are those that define EL as “intelligence” in the traditional sense- a conceptual related set of mental abilities to do with emotions and the processing of emotional information that are part of, and contribute to logical thought and intelligence in general (Mayer, Caruso, & Salovey, 1999). An example of an ability model is the Mayer, Salovey model of EL (MSCEIT). In this model EL is defined as the ability to recognise the meanings of emotions and their relationships and to reason and problem solve on the basis of them. (Mayer, 2001; Mayer & Salovey, 1997). The major skills assessed in this model are perception and appraisal of emotion, assimilating emotion in thought, understanding and analyzing emotions and the reflective regulation of emotion. Mixed models of EL e.g. BarOn’s model of EL (the EQ-i), are those that define EL as an array of non-cognitive capabilities competencies and skills that influence ones ability to succeed in coping with environmental demands and pressures (BarOn, 1997). This model is similar to Izard’s (1977) conceptualization of emotion that includes experiencing emotion, processing emotions that occur and the observable expression of emotion. This EL measure is a mixture of emotion-related competencies, personality traits and dispositions (Palmer, Manochab, Gignaca, & Stough, 2003). This contrasts to ability models as it looks at

personality rather than straight cognitive ability. BarOn (1997) has proposed that the ability to conquer all of the components of EL leads to success in life. Success in life is not based solely on intelligence i.e. 85% of top leaders performance can be accounted for by factors assessed by the EQ (Goleman, 1996). This suggests that something other than IQ is creating top leaders. Therefore, it appears important to integrate emotional aspects into intelligence as EL abilities can promote creativity, innovation, leadership and impact on performance (Sharp, 2001). The next section discusses the integration of emotion with cognition and the impacts that emotion has on information processing.

#### *1.4 Cognition and Emotional Processing*

At present there are few cognitive models that integrate emotional functioning into a working model of emotion-related competencies, however; Crick and Dodge's (1994) social-information processing model can be used to help identify how personality traits, dispositions and emotional processing abilities can affect our actions. The social-information model includes six steps; encoding cues, interpreting cues, clarification of goals, response access, response decision and behaviour enactment. Lemerise and Arsenio (Lemerise & Arsenio, 2000) have incorporated emotional processes into the model to provide a more detailed account that should expand the social-information processing models' explanatory power. Skilful processing of each social-information step is believed to lead to competent performance within a situation whereas biased or deficient processing is hypothesized to lead to deviant social behaviour such as aggression (Crick & Dodge, 1996). Below is a summary of the steps and the emotional processes involved at each stage.

The emotional processes involved in encoding and interpreting social cues are varied. Encoding and interpreting social cues involves attending to, encoding and interpreting internal emotional and situational cues. Encoding and interpreting these cues can give ongoing information about the encounter and can change the emotion experienced or the pre-existing emotion.

Too much emphasis on emotion cues has been associated with public and private self consciousness and neuroticism (Kochanska, 1993). One group of people who have shown deficient interpreting and encoding are offenders. Offenders have been found to

focus on features of a situation that are less emotionally salient (Christianson et al., 1996). This may happen so that offenders can obtain their goals without the feelings of guilt or other emotional consequences. Additionally, Baumeister and Heatherton (Baumeister & Heatherton, 1996) found that those who exaggerated or suppressed the emotional and social cues showed impaired performance on cognitive tasks. Thus too much emphasis or too little emphasis on emotional cues can have a huge effect on our choices of action.

Poor interpretation of emotions can lead to a lack of understanding. Understanding emotions relates to the ability to label emotions, recognise the relationships between words and emotions, interpret the meanings of emotions, understand complex feelings and recognize likely transitions of emotions e.g. anger to satisfaction (Mayer & Salovey, 1997). Lopes (2005) found that perceiving and understanding emotions can help people to interpret internal and social cues and select the appropriate response for action. Without the appropriate understanding of the emotion distress and uncertainty can occur about how to express an emotion. This lack of understanding of emotions can lead to low clarity (confusion about the emotion). Palmer et al. (2002) found that clarity of understanding emotions was one of the strongest factors in the prediction of life satisfaction over both positive and negative affect. In support of this, Salovey and Mayer (Salovey & Mayer, 1990) established that low clarity in identifying and describing emotions was associated with neuroticism, vulnerability to distress and ambivalence about expressing emotions.

Regulation of emotional input is critical in every day life and has a fundamental influence on interpreting and encoding emotional and social cues. In a study of students, those who scored high on an ability measure of emotional regulation reported having more positive relationships with others, less conflict and antagonism with friends and greater affections and support in relationships with parents (Lopes et al., 2004). In a further study, those high in self regulation of emotion were more socially adept, displayed good social skills and had more cooperative responses. (Schutte, Malouff, Bobik, & Coston, 2001). Good self-regulation of the intensity of emotion can increase pro-social relationships but the inability to regulate emotion can lead to poor encoding and interpreting of situational cues. Gohm (Gohm, 2003) studied regulation of emotion and found that four different groups emerged in terms of how they regulated their

emotion; overwhelmed, hot, cerebral or cool. Gohm found that the 'hot' type were more reactive to emotional stimuli and the overwhelmed type appeared unable to avail themselves to critical affective information, i.e. they were unable to attend to the most important emotional information in the situation. The inability to regulate the encoding and interpreting of social and emotional cues can lead to decreased performance and difficulty in controlling reactions to events.

Clarification of goals is the third step in Crick and Dodge's model. Goals are "focused arousal states that function toward producing particular outcomes" (Crick & Dodge, 1994 pg. 87). Emotions can energise particular goals, for example a child in an angry mood is more likely to focus on instrumental goals. These goals can also be biased, for example emotional ties between people can affect goal selection by biasing goal choices; a negative relationship with someone may elicit goals like avoidance and revenge whereas a positive relationship may promote social bonding. The intensity with which a person experiences emotion and their ability to regulate can also influence the types of goals that may be pursued (Eisenberg et al., 1997). Emotionally overwhelmed people and those with poor regulation abilities may choose avoidant or hostile goals to reduce the amount of arousal. This can lead biased assessment of the situation and thus, rigid goal choices may arise (Lemerise & Arsenio, 2000).

Response generation, evaluation and decision are the fourth and fifth steps in the social-information model. These steps involve accessing possible responses to a situation, evaluating the responses in terms of outcomes and goals, and finally performing a response. Access to a response can be influenced by the emotion one is experiencing; feeling angry or excited may cue different responses. Children who tend to be overwhelmed may generate responses and evaluate them in a way that stops further social interaction e.g. running away or angry retaliation (Lemerise & Arsenio, 2000). Good regulators of emotion are able to consider the situations from many different cognitive and affective perspectives and assess goals and possible responses based on all the information available (Eisenberg et al., 1997).

The final step in the social-information processing model is response enactment. An ability to understand different perspectives is important for a response enactment that expresses emotions that are appropriate to the situation. Coping is a form of emotion

regulation and can lead to poor response enactment choices. Coping has the primary focus of decreasing negative emotion experience (Gross, 1998). Poor coping can reduce attention to important stimuli, cause overreaction to stimuli, impair cognitive performance and create abnormal responses that rely on antisocial coping strategies; (Gross, 1998). A study following ways of coping was conducted with sex offenders. It was found that sexual offenders reported using sexual activities as a response; a coping strategy to deal with stressful and problematic situations (Cortoni & Marshall, 2001). In a further study with the same sex offenders it was found that intimacy deficits and loneliness were related to a greater use of sexual activity as a coping mechanism (Cortoni & Marshall, 2001). These response choices show an inability to understand a situation from different perspectives in which antisocial and rigid responses were chosen.

The above cognitive abilities are affected by emotional processes, personality traits and moods (dispositions). Because emotion and personality is related to our cognitive social information processes in such an integral way, the research on emotional literacy (which combines the cognitive abilities and social interactions) is the latest development in understanding the relation between reason and emotion (Mayer et al., 2001). EL encompasses these interrelated abilities involved in the processing of emotional information and helps to guide the decision process in responding to social situations (Lopes et al., 2005).

### *1.5 Crime*

A criminal act is an action that violates the prevailing norms and cultural standards that describe how someone should behave; either political, religious or moral values are violated that are seen as important in protecting the welfare of citizens. The word crime comes from the Latin *crimen*, originally meaning ‘accusation’, ‘reproach’ (Wikipedia, 2007). The study of criminality looks at the extent and distribution of criminal behaviours in society; the characteristics of offenders and the history, structure and functioning on the criminal justice system (Wikipedia, 2007).

Historically there have been many different explanations of crime. Spiritual explanations of crime suggested that otherworldly powers influence events (Vold,

Bernard, & Snipes, 2002). It was believed that the victor in any battle or anyone that was unharmed in tests of innocence would be innocent because God decreed it so. This method of determining who was innocent was replaced by the Pope in 1215 with a trial in front of peers. It was believed that no one could lie under oath for fear of Gods wrath. The method of trial slowly evolved into what we see today, testimony under oath and trial by jury (Vold et al., 2002)

The modern prison system originated within spiritual explanations of crime. Quakers in 1790 decided to isolate offenders in cells and gave them a bible to read. It was thought that offenders would reflect on their wrong doings and repent. The term penitentiary was used to describe the cells which were a place for penitents who were sorry for their sins (Vold et al., 2002). The spiritual explanation of crime became replaced with biological, cognitive and social theories of crime.

### 1.5.1 Theories of Crime

#### *1.5.1.1 Self Control Theory*

The “General theory of crime” (Gottfredson & Hirschi, 1990) has attracted a lot of attention and controversy (Pratt & Cullen, 2000; Vold et al., 2002). This theory is based on the assumption that crime provides gratification that is easy and immediate. This theory also suggests that people who tend to commit crimes partake in other gratifying behaviours that are analogous behaviours to crime like drinking, gambling and smoking. This theory uses the term ‘low self control’ to describe the enduring criminality. Gottfredson and Hirshi (1990) suggest that the lack of self control is found in childhood. Weak control exerted by parents resulted in weak self control in their offspring. Parents who show good attachment to their children are more likely to monitor, recognise and punish wayward behaviour, so these children develop self control to resist easy gratification (Pratt & Cullen, 2000). Measures of low self control have been linked to law violation, self reported delinquency, future criminal convictions, and other analogous behaviours (Pratt & Cullen, 2000). Low self control is also a significant predictor of negative life outcomes like poor social bonds, lifestyles and low socio-economic status (Pratt & Cullen, 2000). Many studies have supported that low self

control in the chief predictor of involvement in crime and in behaviours corresponding to crime (Gottfredson & Hirschi, 1990, Pratt, 2000, Blair, 2001, Hare, 1998).

#### *1.5.1.2 Biological Theory*

Modern biological theorists of crime do not believe that all determinants of criminal activity are biological. Most theories posit that biological factors do not cause the person to engage in crime but rather increases the probability that a person will engage in violent and antisocial behaviours. Biological theories are part of a multiple factor approach which includes neurotransmitters, hormones and behaviour systems (Vold et al., 2002). Neurotransmitters are chemicals that transmit electrical impulses throughout the brain and as such they underlie all aspects of behaviour. A meta-analysis of neurotransmitter function and crime found tentative results suggesting that dopamine, serotonin and nor epinephrine may be associated with antisocial behaviour (Raine, Yaralian, Reynolds, Venables, & Mednick, 2002). Hormones have also been documented to have an effect on antisocial behaviour. Testosterone has been studied extensively in relation to aggression. However, there are several causal links between aggression and testosterone and it is unclear if there is a direct effect of testosterone on aggression (Vold et al., 2002). The autonomic nervous system has also been extensively studied in relation to crime. This system controls many involuntary bodily functions like blood pressure and hormone activity. Research has generally found that antisocial people have lower levels of skin conductance, and lower heart rates (Raine et al., 2002, Blair, 2001, Patrick, 1993) This may mean that antisocial individuals have lower levels or deficient autonomic nervous functioning.

#### *1.5.1.3 Social-Cognitive Theory*

The social-cognitive theory posits that learning can take place through direct interactions with the environment and society via operant conditioning and social learning (Vold et al., 2002). Social learning, or modelling, occurs when people observe the consequences that behaviours have for other people. The initial participation of the individual in criminal behaviour is explained by differential association, definitions (the meaning you attach to your own behaviour), imitation and social reinforcements. After the person has begun to commit crimes differential reinforcements determine whether the behaviours are continued or not (Vold et al., 2002). This is caused by rewards and

punishments directly experienced by the individual and also vicariously experienced by observation of others criminal experiences.

### 1.5.2 Sex differences in Crime

There are similarities and differences between male and female patterns of offending (Steffensmeier & Allan, 1996). Factors involved in the gender difference include biological (physical, sexual), context (schema, rationale), motivation (shame, self-control), criminal opportunity (gang affiliation, skills) and organization of gender (gender norms, social control (Steffensmeier & Allan, 1996). It has been suggested that females develop a sense of self through their relationships with others (Rosenbaum, 1989) and a lack of pro-social resources may lead to antisocial choices (Blanchette, 1997; Steffensmeier & Allan, 1996). The available research on female offenders suggests that they do not commit the same sorts of crimes as male offenders. Female offences tend to be more property, sexual and drug abuse related, whereas male offences focus more on robbery and serious crimes (Steffensmeier & Allan, 1996). Recently, the largest gains in female arrests relative to male arrests were for non-violent economic crimes such as fraud and forgery (Steffensmeier & Allan, 1996).

These differences may relate to how females are raised. It is thought that female offenders travel a different pathway to delinquency than male offenders (Fergusson & Horwood, 2002). It is also believed that female offending is related to relational concerns while male offenders concentrate on personal gain and status (Giordano & Cernkovich, 1997). This difference can in large be construed as being caused by the importance and role of relationships in a females life and development. Females' relationships are critical to the development and the essence of these relationships and can serve as either a protective or detrimental role in their lives (Calhoun, 2001).

Research has found that female inmates are more emotionally unstable and tend to experience more negative emotions such as anxiety, anger and depressive feelings than male inmates (Leenaars, 2005). Female inmates were also found to have higher levels of depression and suicide attempts than males (Loucks & Zamble, 1994; Silverthorn & Frick, 1999). Psychiatric female inmates were more verbally aggressive than men and had more mood problems, high anxiety, showed low self-esteem, substance abuse and

personality disorders (Leenaars, 2005). Even though the gender differences are well known, current programmes in criminal justice do not incorporate this difference between genders.

### 1.5.3 Prevalence of Crime

In New Zealand crime has been on the increase. Recorded crime doubled between 1970 and 2000, with the offence rate peaking at 1,322 per 10,000 people in 1992. However, this was down to 994 per 10,000 population in 2005 (Statistics New Zealand, 1996). In 2005, more than 407,000 offences were recorded by the New Zealand Police. Male offenders accounted for 82% of all convicted cases in 2005 and female offenders accounted for 18%. The largest category of recorded offences was dishonesty, accounting for more than half of all recorded crime in 2005. Drugs and antisocial offences was the next largest category, followed by violent offences, property damage, property abuse, administrative and sexual offences. The largest age group represented in the court system involved offenders 20-24 years. The ethnicity data shows that for all convicted cases in 2004, 45% involved Europeans, 43% involved Maori and 9% involved pacific people (Soboleva, Kazakova, & Chong, 2006).

## *1.6 Developmental Theory of Crime*

Developmental theorists believe it is important to study criminality from a developmental perspective because there is strong evidence that an age-crime curve exists, and many theories fail to address this important aspect of crime. The age-crime curve shows that criminal behaviour is relatively uncommon during childhood and that the onset of delinquent behaviour and criminal behaviour increases rapidly during late childhood and early adolescence but declines in the early 20's (Moffitt, 2004; Moffitt & Caspi, 2001, Lynam, 1996, Farrington, 1986; Thornberry, 2004). Farrington (1986) showed that the adolescent peak reflected in the age-crime curve reflects a temporary increase in the number of people involved in antisocial behaviour rather than a temporary acceleration of offence rates of individuals.

Most theories pay little attention to developmental or life-course issues and present rather static explanations for criminal behaviour (Thornberry, 2004). Thornberry (2004) suggests that non-developmental perspectives fail to identify, or offer explanations for,

many dimensions of criminal behaviour such as prevalence, age of onset, duration of careers, frequency and seriousness of criminal acts. Many theories also fail to address why some people may be more inclined to commit violent offences as opposed to non-violent offences.

A popular classification theory that attempts to explain the age-crime curve, duration of careers, seriousness and violent offending is Moffitt's developmental theory. Moffitt (1993) proposes that there are two distinct developmental trajectories for antisocial behaviour. It is argued that juvenile delinquency conceals two qualitatively distinct categories of individuals, each in need of its own distinct theoretical explanation. Many people behave antisocially but their antisocial behaviour is temporary and situational, by contrast, the antisocial behaviour of some people is very stable and persistent. The persistent stable antisocial behaviour is found in relatively few people and may follow a different developmental trajectory than the more temporary antisocial behaviours. Moffitt has labelled those that present the more stable antisocial behaviour as showing a life-course persistent (LCP) offending trajectory and those that show the more temporary antisocial behaviours as having an adolescent-limited (AL) offending trajectory.

#### *1.6.1.1 Life-Course Persistent offending trajectory*

LCP offenders show a continuity of antisocial behaviours, cross situational consistency, higher rates of offending; often violent. Children with early-onset antisocial behaviour begin showing mild conduct problems as early as preschool and their antisocial behaviour increases in rate and severity throughout childhood and into their teens (Frick, 2006; Henry, Caspi, Moffitt, & Silva, 1996). It has been shown that the most persistent 5-6% of offenders are responsible for 50% of the crimes (Farrington, 1986; Henry et al., 1996). Children's rates of offending in Fergusson and Horwood's NZ study (Fergusson & Horwood, 2002) revealed that chronic offenders committed crimes an average of 141.1 times from age 14-20, which is 35.5 times per year. In a Philadelphia cohort 40.3% of children who showed early onset chronic antisocial behaviours became chronic offenders, whereas only 11.9% of adolescent onset antisocial youth showed chronic antisocial behaviours (Kempf-Leonard, Chesney-Lind, & Hawkins, 2001).

LCP offenders also show cross-situational consistency. LCP offenders offend in many situations e.g. stealing from shops, cheating at school, lying at home, fighting in bars etc. These different situations represent a range of antisocial expressions that emerge as development affords new opportunities. LCP offenders show disproportionately high violent offending. In a NZ cohort 38% of the adults in an early onset of offending group were more likely to be convicted for violent offences (Moffitt & Caspi, 2001). Furthermore, a cohort of delinquent children from Philadelphia showed that children with early onset antisocial behaviours were more violent compared to late onset antisocial behaviour (Kempf-Leonard et al., 2001). The LCP offending group represents an offending trajectory that involves chronic antisocial behaviour from childhood, cross situational consistency and a higher number of violent offences compared to those that start offending at a later age.

#### *1.6.1.2 Adolescent-Limited offending trajectory*

In contrast to the LCP pattern, AL offenders begin offending later and tend to desist by early adulthood. Moffitt believes that the AL trajectory of antisocial behaviour is normative as only 7% of adolescents do not act out illegally (Krueger, Schmutte, Caspi, & Moffitt, 1994). Moffitt also believes that this antisocial normative behaviour is an expression of adolescents trying to bridge the gap between biological and social maturity in which teens develop physically mature bodies at around 13 but are denied adult status and activities until 18. Engaging in crimes only because they are committed by a minor engenders feelings of independence and adulthood (Silverthorn & Frick, 1999). Based on this, Moffitt proposes that AL offenders will tend to engage in crimes that symbolize adult privileges or demonstrate autonomy from parental control such as vandalism, public order offences, substance abuse, running away and theft (Moffitt, 1993). This contrasts to LCP offenders who offend with more variety, often alone and with more victim oriented crimes like violence and fraud. These types of offences are more serious and do not symbolize adult privileges or autonomy from parents.

The differences between LCP and AL are often found to be environmental and founded in individual characteristics that come from early childhood (Henry et al., 1996). AL groups lack a pathological history, do not show problem personalities nor low IQ or inadequate parenting or broken parenting attachments (Moffitt, 2004). The persistent offenders, that become serious offenders, show coercive behaviours, impulsivity, and

neuropsychological deficits (Henry et al., 1996) and personalities characterised by feelings of alienation, lack of social closeness, and risk taking (Krueger et al., 1994). Moffitt (1993) suggested that AL offenders are responsive to shifting reinforcement contingencies, thereby portraying an ability to change behaviours when a more rewarding and positive alternative exists, this is something that LCP offenders do not show.

#### *1.6.1.3 Gender Differences in offending trajectories*

Female offending rates have been rising and Conduct Disorder is now the second most common diagnosis among adolescent girls, but almost all development models, assessment and treatment procedures are based on male samples (Vitale, Smith, Brinkley, & Newman, 2002). Almost all studies consistently find that females offend at much lower rates than males (Caspi, Lynam, Moffitt, & Silva, 1993; Frick, 2006; Silverthorn & Frick, 1999), however it has been found that the sex differences between girls and boys offending narrows in adolescence, due to the large increase in the number of girls engaging in antisocial behaviours in adolescence combined with a much less conspicuous increase in the rate of antisocial behaviour in boys (Fergusson & Horwood, 2002; Moffitt, Caspi, Rutter, & Silva, 2001; Silverthorn & Frick, 1999). Because of this finding debate has arisen over which developmental offending trajectory girls fits into (Fergusson & Horwood, 2002; Silverthorn & Frick, 1999).

Moffitt has proposed that females fit into the same dual developmental taxonomy as males but that their numbers are a lot lower. Sex difference ratios for males and females were found to be 10:1 for LCP and 1.5:1 for AL (Moffitt & Caspi, 2001). These differences reflect that females are present in both pathways but they are not as prevalent. Mazerolle and colleagues, (2000) also found that females had much lower rates of crime but that the early onset, chronic offending trajectory fitted for both males and females in the Philadelphia cohort. Furthermore, Fergusson and Horwood (2002) found identical offending trajectories for males and females but females had a much lower prevalence.

Diverse findings have been found regarding the age of onset of offending for females. Some results suggest that females show a similar trajectory to males while others suggest that females have a later onset of offending. None of these cohort studies have

been followed into young adulthood so it is hard to generalize these results to adults. Most studies suggest a different age of onset for females than males (Fergusson & Horwood, 2002; Frick, 2006; Silverthorn & Frick, 1999). Because of this a different developmental trajectory has been proposed. Silverthorn and Frick (1999) believe that the two trajectory model is not a good fit for girls as most antisocial girls start showing severe antisocial behaviours in adolescence. Silverthorn and Frick suggest that a weakness of Moffitt's theory may be the absence of sub-categories. They suggest that females may fit a delayed onset pathway that is similar to the child-hood onset pathway in boys. Many of the pathogenic mechanisms in girls such as cognitive and neuropsychological deficits, dysfunctional family and CU traits may be present in childhood but they do not lead to severe and overt antisocial behaviour until adolescence. In support of the delayed onset of offending trajectory for females, Kempf-Leonard and colleagues (2001) found that female ratio for age of onset was 1:8 (early: late) and Stattin (1984) found that delinquent girls did not differ from controls on measures of aggression at 10 but they did differ at 13 and it was these later scores that predicted adult criminality. Furthermore, Robins (1966, as cited by Silverthorn and Frick, 1999) studied adults who as children had been referred to a child guidance clinic in the late 1920s. She found that females with APD as adults had a mean age of onset of offending at 14 years or older, whereas males with adult APD had a mean age of onset of offending at 9 years.

A further reason for a different developmental trajectory for females comes from the finding that antisocial girls show similar poor adult outcomes to LCP males (Silverthorn & Frick, 1999). Conduct problem girls seem to come from dysfunctional families with poor family bonds, parental changes (Vitale et al., 2002) which can lead to extremely poor outcomes in later life, for example, 70-90% of antisocial girls have outcomes in adulthood such as arrest, illness, drug and alcohol problems and recidivism (Silverthorn & Frick, 1999). One study found that 97% of female offenders came from non-intact families, 90% came from violent and abusive households and had higher rates of parental criminality and parental mental illness (Rosenbaum, 1989). These studies support the contention that antisocial females have very poor outcomes in adult life, and suffered from poor family backgrounds, similar to that of male LCP offenders.

Overall females are much less inclined to commit crimes, but do follow the same age-crime curve as males, with a marked increase in adolescent offending. Studies of these adolescent antisocial females have found diverse results surrounding the age of onset of antisocial behaviour and family histories. A clear understanding of the age of onset criteria and the use of longitudinal research into late adulthood may clear up the confusion surrounding adolescent females. Many of the studies mentioned do support the contention that antisocial females show similar family backgrounds and poor adult outcomes to males who began offending at a young age. These findings have led to the belief in a ‘delayed-onset’ offending trajectory for females.

### *1.7 Callous-Unemotional Traits*

Research on callous-unemotional (CU) traits is rooted in years of theory and research on psychopathy. A CU interpersonal style is characterised by; little affective bonding with others, an inability to appreciate emotional consequences of actions, appearing cold and callous, unable to experience strong emotions, an indifference to the feelings of others (Hare, 1991), unconcerned about work, failure to keep promises, inability to show emotions (Frick, 2006), poor judgment, failure to learn from experience, insincerity and superficial charm (Kimonis, 2003).

CU traits derive from literature based on psychopathy. Psychopathy is a personality disorder characterised by distinctive interpersonal affective and behavioural deviance (Lochman & Wells, 2002). It literally means “mental illness” (Hare, 1991), which is derived from the words psyche, meaning mind and pathos, meaning disease.

Psychopathy in offenders is associated with severe and violent aggressive behaviour, poor treatment outcomes and high rates of recidivism (Hare, 1998). Researchers have been extending the concept of psychopathy downward to children and argue that examining the development of CU traits in children and will help explain the construct of psychopathy (Frick, 1998).

Hare’s (1991) adult assessment of psychopathy consists of two factors. Factor one relates to emotional aspects such as glibness, superficial charm, manipulateness, lack of remorse, shallow affect, lack of empathy and deceitfulness and factor two focuses on antisocial aspects of psychopathy like impulsivity, poor behavioural control, lack of

goals, irresponsibility and adolescent and adult antisocial behaviour. Lynam (1993) extended this concept to children in a study of over 400 boys. He found that children with psychopathic personalities were serious and stable offenders, impulsive and more prone to externalizing and internalizing disorders. Lynam's study suggested that psychopathy may manifest in youth and create "fledgling psychopaths". Research following children with CU traits *and* conduct problems show the reward-dominant response style that characterises the avoidance learning deficits found in adults with psychopathy (Frick, 1998), which is a critical component of adult psychopathy theories (Hare, 1998). Frick and colleagues (1998) formulated a child version of Hare's conceptualization called the Antisocial Process Screening Device (APSD). Frick found that one of two dimensions of psychopathy in children was defined by the CU interpersonal style, and others have agreed, finding that the personality features in psychopathy are characterised by the CU trait (Hart, Cox, & Hare, 1995).

#### 1.7.1 Models of Psychopathy and Callous Unemotional traits

##### *1.7.1.1 Biological*

People with psychopathic tendencies have shown reduced volume and activation in the amygdala (Kimonis, 2003) which suggests that there may be a core deficit such as structural brain damage in those that show psychopathy (Kimonis, 2003). Damage to the amygdala can cause disruption to operant and classical conditioning, impair the processing of affective facial and auditory expressions and affect memory of affective experiences (Frick, 1998). Taken together these reports suggest that there is a unique biological deficit in psychopaths that impairs their ability to process affective stimuli.

Several theorists have argued that there are two motivational systems that underlie behaviour (Patrick, Cuthbert, & Lang, 1994, Hare, 1998). A behavioural activation system (BAS) is believed to regulate appetitive motives, in which the goal is to move toward something desired and a behavioural inhibition system (BIS) which is said to regulate aversive motives, in which the goal is to move away from something unpleasant. It has been suggested that people showing psychopathy show a low behavioural inhibition system (Loney, Frick, Clements, Ellis, & Kerlin, 2003). Low BIS activation causes a lack of responsivity to cues of punishment, lack of responsivity to

cues of potential danger and harm, and abnormal processing of affective stimuli (Frick, 1998). CU traits are related to levels of behavioural inhibition which may be critical in development of affective components of conscience such as guilt, remorse and empathy (Frick, 1998). The inability to shift from a reward dominant response set in response to cues of punishment seems to be more directly related to CU traits (Frick, 1998) and linked to the diminished reactivity to emotionally charged stimuli, caused by the under-activation of the BIS (Loney et al., 2003).

#### *1.7.1.2 Social- Cognitive*

Pardini (2006) found that those with high CU traits showed difficulty in modifying social cognitions. It is important to study social-cognitive processes because those with psychopathic traits such as CU have normal IQ and no obvious thought disorder, but still fail to exercise good judgement in decision making (Pardini, 2006).

Psychopathic traits have been linked to a reward dominant response style (Loney et al., 2003). This response style is characterised by persistence in a rewarded response even if the rate of punishment for the response increases. This deficit may lead to a CU affective and interpersonal style (Cleckley, 1964; Kimonis, 2003). Behavioural paradigms can examine how children with CU traits respond to cues of punishment while engaging in goal-directed behaviour. In a study by Frick and colleagues (1998) children with high CU traits had a tendency to become highly focused on indicators of rewards and attend less to cues of punishment. This may mean that people with CU traits have a tendency to underestimate the probability that negative consequences will result from aggression and underestimate the probability of experiencing negative consequences from the result of violence.

Pardini (2006) also found that CU traits had a significant negative relation to empathic concern and perspective taking scales. This emotional processing deficit may help to buffer the amount of personal distress experienced by children in threatening events and explain the reason why high CU is related to children that show low levels of distress in response to threat (Frick & Morris, 2004; Pardini, 2006). Researchers have suggested that for empathy development to occur children must initially experience self focused emotional distress when they are punished (Blair et al., 1995) however if there is low distress during punishment then empathy development would not occur. Pardini (2006)

believes that children with low levels of temperamental fearfulness may be at particular risk for developing CU traits. Temperamentally fearless children may have difficulty in attending and encoding cues associated with the negative consequences of aggression (Frick, 1998) this places them at increased risk for developing a CU style. Low fearfulness may also cause children to place more focus on the positive consequences of aggression (Pardini, 2006) and contribute to the stability of antisocial behaviour.

### 1.7.2 Developmental Trajectories and Callous-Unemotional Traits

It is believed that the differences between those with CU traits and those without may lend support to the contention that there are different developmental pathways or processes underlying aggressive behaviours (Loney et al., 2003). There is a growing interest in extending the concept of psychopathy to children and adolescents to identify significant causal factors early in development so that intervention programs can be developed when the traits are more malleable (Barry et al., 2000; Frick, 1998; Lynam, 1996). Because psychopathy is a personality disorder, it is believed to be stable over time and therefore children should show aspects of psychopathic traits (Lynam, 1996; Morris, 2007). Children who lack empathy and feelings of guilt and remorse following deviant transgressions seem to show a severe form of violent behaviour over time (Dadds, Fraser, Frost, & Hawes, 2005; Pardini, 2006) and because CU traits in children predict severe and violent antisocial behaviour in adults it suggests that psychopathy may be a developmental disorder (Frick, Cornell, Bodin et al., 2003; Lynam, 1996; Pardini, 2006). Some researchers have implicated the CU interpersonal style in the life-course persistent trajectory of antisocial children (Fergusson & Horwood, 2002; Frick, 2006; Moffitt, 1993; Moffitt & Caspi, 2001; Pardini, 2006) and believe that childhood onset antisocial behaviour plus evidence of CU traits is a hallmark for later adult psychopathy (Frick, 1998; Lynam, 1996).

### 1.7.3 Sex Differences in Callous-Unemotional Traits

The majority of studies looking at prevalence of CU traits have focused on male samples (Lynam, 1996). However, more recently studies have found that females also show CU traits, and indeed, these traits may be more prevalent among female offenders than the more general conduct problems. For example, Moffitt (1996 as cited by Fergusson and Horwood, 2002) reported that childhood-onset delinquent boys and

adolescent-onset delinquent girls both exhibit personality traits that are similar to CU traits (low “social closeness”, in Moffitt’s terminology), a finding that is supported in more recent research (Butler, 2004; Dadds et al., 2005; Moffitt, 1993; Moffitt & Caspi, 2001). Furthermore, a cluster-analytic study suggests that CU traits may be more prominent in females than in males, in that, for females, CU traits are more prevalent than conduct problems. Christian, (1997) measured both CU traits and conduct problems in male and female children and found three distinct clusters; 1) high CP, 2) high CU, 3) high CP and CU. The largest percentage of girls were represented in the CU-only group (33%) and the smallest percentage was found in the CU plus CP group. That is, girls showed higher CU traits than conduct problems. This pattern is quite different from the results for males.

In support, studies focusing on predicting future antisocial behaviour have found that CU traits in females appear to be a strong predictor of future antisocial behaviour, more so than conduct problems (Marsee, Silverthorn, & Frick, 2005). For example, Frick et al. (2003) reported that, in a non-referred sample of children, CU traits in the absence of impulsivity and conduct problems were a better predictor of later delinquency for girls than for boys. Furthermore, Dadds and colleagues (2005) found that CU traits predicted future antisocial behaviour in adolescent females. Both younger females and males did not find this result. In males, the combination of CU and conduct problems was the important factor in the prediction of future antisocial behaviour whereas in adolescent females it was CU traits.

Another interesting finding in many of these studies is that adolescent female delinquents have similar CU scores and impulse control scores as early-onset male offenders (Dadds et al., 2005). LCP boys and adolescent delinquent girls showed more impulsivity than AL boys and had similar CU scores. This finding provides some support for a delayed developmental pathway in females and suggests that females that begin serious offending in adolescence show similar levels of CU traits and impulse control deficits as LCP boys

## *1.8 Emotions and Crime*

Emotion is a critical element of human behaviour and therefore, should be an integral factor in theories of criminal behaviour. Direct relations have been found between emotion processes and crime in the social process, control and strain theories of criminality (Bora, 2003). It has been suggested that EL can play a part in criminological theory and help us enhance our understanding of deviancy (Moore, 2005; Moriarty, Stough, Tidmarsh, Eger, & Dennison, 2001; Pardini et al., 2003; Roy, 2003).

Emotional processing differences have been found in studies looking at differences between offenders and non-offenders. In offenders, biophysiological measures such as skin conductance, testosterone and neurotransmitter activity, in areas of the brain have been interpreted as showing emotion related effects that differentiate offenders from non-offenders (Blair et al., 1995; Hare, 1998). Even with the evidence showing the link between emotional processing deficits and crime, theories of crime generally do not address emotion and its role in crime, and instead reduce emotion to a smaller element within the larger perspective (Gibbs, Giever, & Martin, 1998). Below is a summary of the research involving those that display deviant behaviour and their emotional processing.

### 1.8.1 Emotional processing and antisocial behaviour

As Crick and Dodge (1996) suggested in their social-information processing model, biased or deficient processing is believed to lead to deviant social behaviour. Many studies look at aspects of the social-information processing model in regard to aggression and offending (Christian et al., 1997; Hudson et al., 1993; Lee et al., 2004). What follows is a summary of these studies and their findings.

Studies of individual differences in children have established that aggressive children attribute more hostility in response to ambiguous situations involving provocation (i.e., they attribute malicious intent to the peer provocateur more often than other children Crick, 1994; Blair, 1995}. In a study of children's interpretation of intent of a provocateur who showed either hostile, accidental, pro-social or ambiguous intentions, aggressive children were found to use less information and attend to more cues of

hostility than non-aggressive children (Crick & Dodge, 1996). This poor interpretation is an example of the hostile attribution bias. The perception of hostile intent led to later reactive aggressive acts which were more likely to increase a peer's hostility. This reactive aggression may be maintained by a negative cycle which causes biased social information processing in aggressive children and creates a "self-fulfilling prophecy" of aggression.

Studies on offenders have also found biases and deficiencies in their encoding and interpreting of emotional stimuli. Saliency of events and facial recognition of emotions are two such examples. Research has shown that central details (information connected with the source of emotional arousal) of a negative emotional event are better retained than the peripheral details (information preceding and succeeding emotional events) (Christianson et al., 1996). Emotion-elicited processing may promote memory for central information, but actively inhibit the processing of peripheral details, that is, details that are irrelevant and/or peripheral to the emotion-eliciting event or the source of emotional arousal may not be remembered as well (Christianson et al., 1996). The ability to recall emotional events was studied in an offender group and non-offender group from Canada by Christianson and colleagues (1996). Christianson found that non-offenders recalled equally well the central and peripheral details of a neutral event but recalled the central details of the negative emotional event much better than the peripheral details. In contrast, offenders recalled the central and peripheral details of the neutral and emotional events equally. Offenders lacked the differential processing of emotional information and did not show the expected narrowing of attention with negative emotion events. This suggests that offenders may have difficulty in identifying and interpreting the more salient, important information or do not recall the emotional information as well as non-offenders. This study points to a deficit in encoding of salient emotional information.

Offenders also show many emotion recognition deficits. An Emotion Recognition Test has been developed as a concise and objective measure of emotional awareness (one of the sub-domains of emotional literacy (Mayer & Salovey, 1997) that can assess individual differences in perceiving emotional cues. The test involves recognising and differentiating pictorial facial emotional expressions and can be used to see if offenders have poor abilities in encoding emotional cues. While using this test Lee et al., (2004)

found that the more severe the criminal history of the offender then the more emotionally impaired the offender was. Chronic offenders showed hypo-emotionality (a lack of emotion to the pictures shown in emotionally eliciting situations) and poor emotion recognition in facial expressions compared to the comparison groups of normal controls and schizophrenic inpatients. It was only the most severe chronic offenders who showed poor encoding and interpreting of emotional cues.

Poor emotion recognition in offenders for facial expressions has been studied in regard to specific emotional expressions (Hudson et al., 1993). Facial expression studies in sex offenders have shown specific deficits in identifying disgust, fear and anger. It was found that when compared to violent offenders; both rapists and paedophiles were significantly less sensitive to the perception of emotion displayed in photographs of both male and females' target faces. They also found that compared to controls, paedophiles were less accurate in the perception of emotions in adult and child targets. In particular, sex offenders misinterpreted facial expressions of fear as showing disgust (Hudson et al., 1993).

The lack of emotion recognition can lead to empathy deficits. Empathy deficits can occur via specific cognitive distortions and confusion about emotions, and has been proposed as a justification for offending as the distortions eliminate emotions such as anxiety and guilt (Lafferty, 2004; Marshall, Hamilton, & Fernandez, 2001; Marshall, Hudson, Jones, & Fernandez, 1995). This is a rationalization process that can be involved in goal clarification. Most theorists of sexual offending see empathy deficits as part of an offender's rationalization that permits them to continue engaging in assaultive behaviours (Hudson et al., 1993; Marshall et al., 1995). Showing empathy and understanding what emotion someone else is feeling may conflict with the goals of the offender. Some believe that sex offenders have deficient abilities in perceiving the emotions of others but only in specific situations (Moriarty et al., 2001). Marshall and Ekman (Ekman, 1992; Marshall et al., 2001) both found that sex offenders had deficits in perspective taking and emotional replication however these deficits were person-specific, the empathy deficits were only displayed towards their victims or those similar to their victims. A lack of empathy toward victims may also be related to coping strategies. Blair (1995) has proposed that people with psychopathy will fail to attribute

guilt appropriately because they have a schema that when activated by non-verbal communication, e.g. sadness or tears, may initiate a withdrawal response instead of an empathic response. Schema is a term used to describe the way in which information is represented in the brain and the relationships between these representations and measures of information processing. These studies show that offenders do show empathy deficits however it is unknown whether these are due to choosing not to show empathy, or being unable to show empathy.

The ingrained nature of social schema, based on years of encoded learning, make it very difficult for change to occur. Adolescent offenders have been found to show difficulties in labelling and understanding both their own emotional states, and the emotional states of others (Moriarty et al., 2001). It is possible that the feelings felt may not fit into a pre-existing schema, and this causes confusion about what the emotion is, and how to deal with it.

The next steps in the social-information processing model are response generation, evaluation and decision. Research on offenders in the response generation, evaluation and decision steps of the social-information processing model has demonstrated that aggressive children evaluate aggressive acts in ways that are likely to lead to aggressive behaviour, that is, they expect relatively positive outcomes from aggressing and feel more confident about their ability to perform aggressive acts than non-aggressive people (Crick & Dodge, 1994). Proactive-aggressive children are more likely to view aggression as an effective and viable means of obtaining social goals, and are less likely than other children to endorse relationship-enhancing goals during social interaction. The response decision processes of proactive aggressive children are therefore more likely to result in instrumental aggressive behaviour that emphasise instrumental and self-enhancing goals (Crick & Dodge, 1996; Eicken, 2003; Patrick & Zempolich, 1998). This supports the finding that people with psychopathy and life-course persistent offenders have a low fear of punishment and therefore are more likely to show confidence in acting aggressively and to expect positive outcomes (Frick, 2006; Hare, 1998).

Lack of emotional control is an aspect integrated into many areas of the social-information processing model. Lack of emotional control involves emotional instability,

restlessness, impulsiveness and negativism; a failure in regulating emotions. The under regulation of emotions can cause externalizing disorders like aggression and hostility (Caspi et al., 1993) and these disorders can cause lower attention, regulation and inhibitory control (Eisenberg et al., 1997). Many children with aggressive behaviours show problems regulating their display of negative emotion such as showing anger, fear, anxiety, frustration and irritability. These displays are examples of a lack of emotional control or poor regulation (Eisenberg et al., 1997) and suggest high negative reactivity (the tendency to react strongly and consistently to events with negative emotions) (Kimonis, 2003), low adaptability and lack of persistence (Frick, Stickle, Dandreaux, Farrell, & Kimonis, 2005). Schema based on antisocial ideals lead to fewer pro-social response generations and evaluations which in turn, create response decisions and enactments based around negative emotions and behaviour.

One way to reduce negative emotions and create more emotional control is by adopting coping strategies. A lack of emotional control shows ineffective coping. Pizzaro and Salovey (2002) believe that engaging in risky criminal and antisocial behaviours may serve as a way to avoid or escape painful negative mood states e.g. committing a gratifying act (such as revenge) may alleviate anger. Therefore, acting in antisocial ways may serve as a coping behaviour in response to negative mood states. A specific coping strategy is emotion-oriented coping. This strategy involves managing only the emotions surrounding a problem (e.g. wishful thinking, blaming), rather than task-oriented coping which involves directly solving a problem or reframing it to lessen its impact. A study by Feelgood and colleagues (Feelgood, Cortoni, & Thompson, 2005) found that paedophiles reported more emotion-oriented coping than both violent and sexual offenders. Feelgood et al., concluded that emotion-oriented coping facilitated sexual offending by mediating the effect of negative emotional states. Response decisions and enactments to deal with emotions via emotion-oriented coping strategies can have many negative effects such as psychological maladjustment, less effective coping, and this inability to cope with negative mood states.

Aggressive adolescents and adult offenders show many problem areas in emotion processing. The inability to encode and interpret emotional cues is shown in studies that propose offenders and antisocial children fail to attribute emotions correctly, fail to recognise and attend to emotionally salient information. These deficits may be linked to

goal orientation. Instrumental goals may cloud the ability to recognise, or encode emotional cues such as fear or sadness in someone else. Goals are also central to the response process as goal clarification can colour what responses are generated and how they are evaluated. A goal to reduce negative mood states may initiate a response based on an antisocial schema that found responding in an aggressive way produced gratification and reduced the feelings of anger. Such responses can lead to antisocial coping strategies, which create a cycle of antisocial behaviour. The emotional and situational cues which are processed in the social-information processing model are contained in the emotional literacy concept. The next section shows an example of a group of people who show clear links to poor emotional processing and crime.

### 1.8.2 Emotional processing and Psychopathy

One specific population that has been extensively studied in relation to emotion deficits and antisocial behaviour is people with psychopathy. Given the characteristics of psychopathy there is every reason to expect psychopaths are likely to engage in criminal behaviour. A lot of research reports that antisocial behaviour is considered to be highly prototypical of psychopathy. This does not mean that all people with psychopathy are criminals, just that offender populations should have a higher base rate of people with psychopathy than other samples. Research has shown that offenders with psychopathy do offend at a higher frequency than offenders without psychopathy (Hare, 1991) and that strong associations between psychopathy and violent recidivism exist e.g. in one study 51% of offenders with psychopathy were reconvicted of a violent crime (Hare, Clark, Grann, & Thornton, 2000)

Studies of psychopathy in offenders have found deficits relating to low reactivity to emotional words, poor emotional recognition and showing less fear in response to stimuli that elicits fear in non-psychopathic individuals. Because of these deficits, it is plausible that people showing psychopathic traits may also show low EL. In the next section a detailed look at psychopathy and the emotional deficits shown in this disorder will be presented.

Cleckley (1964) provided the classic clinical description of the psychopathic personality which suggested that symptoms of psychopathy derived from a deep-rooted affective

deficit. From an initial description by Cleckley, Hare in 1980 developed a 20 item Psychopathy Checklist (PCL) as a method for identifying psychopathic personalities in offenders. Hare based this checklist on three assumptions; a two factor structure existed for psychopathy, psychopathy was chronic and psychopathy had an association with criminality and social deviance. Harpur, Haskstian and Hare (1988) factor analysed the 20 items in PCL and the results strongly supported a two-factor solution. Factor one (Factor 1) was labelled lack of affect and comprised of items tapping into egocentricity, superficiality, deceitfulness, callousness, and a lack of remorse and empathy. Factor two was labelled the chronic antisocial factor and comprised of impulsivity, sensation seeking, irresponsibility, aggressiveness, and criminality.

The second assumption by Hare is that psychopathy is associated with criminality. Research suggests that psychopathic offenders have a higher frequency of offending than non psychopaths (Hare, 1991; Wilson, 2003). The third assumption assumes that psychopathy is chronic. Many studies show that psychopathy persists into adulthood (Frick, Cornell, Bodin et al., 2003; Kroner & Forth, 1995) and offenders who show psychopathic traits have strong recidivism rates (Wilson, 2003). Recidivism is an example of chronicity, where offenders repeatedly commit offences.

Studies on specific aspects of emotional processing and psychopathy in offenders have been extensive and found impressive results. Offenders with psychopathy may have trouble in encoding, interpreting, and making decisions based on emotional cues because of brain abnormalities. Offenders who show psychopathic traits consistently show less affect related activity in the amygdala, para-hippocampal and ventral striatum (Blair, 2001; Blair et al., 2002; Kiehl, 2001). Furthermore, offenders with psychopathy have shown less frontal lobe activation (as measured by event related potentials) when shown emotionally eliciting word cues (Blair et al., 2002; Hare, 1998; Patrick & Zempolich, 1998) and it has been suggested by Kiehl (2001) that offenders with psychopathy extract less information from affective words than neutral words. This is consistent with theoretical work suggesting an underactivity of the neurobiological system and potential abnormalities in the structure of the brain in people with psychopathy (Blair, 2001; Frick, 1998; Kimonis, 2003).

Offenders with psychopathy may have learnt poor associations between their emotions and events. People with psychopathy tend to have a poor ability to make rapid and accurate discriminations between things that are good or bad, safe or dangerous (Wilson, 2007). The deficient decision processes may stem from poor assimilation of emotion cues with existing schema. Blair (Blair et al., 2002) found that psychopaths showed deficits only in the emotional processing of sad and fearful expressions and Kosson and colleagues (Kosson, Suchy, Mayer, & Libby, 2002) found that offenders with psychopathy performed more poorly when classifying faces showing disgust. The diverse results from studies suggest that offenders with psychopathy have poor emotional reactivity to emotional stimuli and have trouble interpreting the emotions shown in facial expressions.

Psychopathy in offenders has been linked to different reactions to emotional stimuli thought to elicit fear (Blair, 2001). Non-verbal displays of affect in offenders with psychopathy showed that offenders with psychopathic personalities have difficulty in acquiring a conditioned fear response (Blair, 2002). Offenders with psychopathy show little fear in anticipation of an unpleasant or painful event (Hare, 1998), show a weaker electrodermal responses (i.e. less sweating) in anticipation of aversive events (Blair, 2001) and a smaller startle blink response to unpleasant and pleasant slides (Blair et al., 1995; Dolan & Fullam, 2006; Hare, 1998). These biological indices have been used as evidence for a low fear hypothesis, thought to affect people with psychopathy and the decisions they make.

In general, offenders with psychopathy represent a population that show many deficits in affective/interpersonal emotional abilities. Specifically, this personality disorder shows difficulties in recognition of emotions (Blair et al., 2002; Dolan & Fullam, 2006; Hiatt, Lorenz, & Newman, 2002), reduced autonomic responding in distress to others (Christianson et al., 1996; Kiehl, 2001; Mullins-Nelson, Salekin, & Leistico, 2006) and difficulty in changing responses to changes in reinforcement contingencies (Blair et al., 1995; Hare, 1998; Vitale & Newman, 2001). These deficits in a population of individuals, that present an extreme of criminal offending, show the importance of investigating emotional processes and their contributions to crime.

## *1.9 Emotional Literacy and the Social Information Processing Model*

### 1.9.1 Linking Emotions and Emotional literacy

Emotion, as expressed behaviour, is a collection of discrete behaviours identified by motor and facial expressive behaviours (Plutchik, 1980) whose function is communication. The representation of the ability to process and understand these emotions in everyday life is via emotional literacy abilities. The two main EL tests used are the Mayer-Salovey-Caruso-Emotional Intelligence Test (MSCEIT), and the BarOn Emotional Quotient (EQ-i). The MSCEIT model of EL focuses solely on cognitive aspects of emotional literacy which follows Zajonc's theory that emotional processing is distinct from information processing (Zajonc, 2000) but the BarOn EQ-i includes social and cognitive abilities similar to the theories proposed by Frijda, Dodge and Damasio (Frijda, 1993), (Dodge, 1991) (Damasio, 1994) and employs the idea that emotional processing is part of our social intelligence (Dodge, 1991).

Within normal populations the two tests show minimal relations to each other, the ability EL as measured by the MSCEIT and self-report EL (measured by BarOn EQ-i) are weakly related and yield different measurements of the same person (Brackett & Mayer, 2002; Stys & Brown, 2004). The most closely related subscales between the two models was on the regulation of emotion scale in the MSCEIT and the interpersonal scale in the BarOn.EQ-i At present there are no articles that present a review of the differences in the EL tests and their validity on offender populations.

Because the BarOn model of EL is based on the integration of cognitive and social abilities then it is possible that EL abilities can be integrated into a social-information processing model. EL can affect social-information processing through the personality trait, dispositions and other affect related abilities that influence the processing of social information. As previously discussed, these personality traits, mood dispositions and general schema, biases and goals orientations affect all aspects of emotional processing.

The encoding step, which involves giving attention to environmental cues, is associated with EL abilities such as the intrapersonal scale in BarOn's model which abilities relating to encoding, such as the ability to be self aware and express yourself. These skills rely on understanding and interpreting your feelings. Additionally, understanding

emotions, accurately perceiving and understanding yourself and knowing your goals are all important as they effect the encoding of environmental cues. General mood, another scale on the BarOn model, is also important for the encoding step. The ability to be content, positive and joyful can affect your life in drawing attention to specific environmental cues.

In the interpretation step, cues are matched to possible interpretations in memory, and through decision rules an interpretation is generated (Crick, 1997). The intrapersonal ability, self-actualization involves goal setting. Goal setting has enhancing effects on attention, problem solving and decision making (Dodge, 1991). Interpretation of cues can also be affected by mood congruent effects. If one is angry they are more likely to attribute hostility from others. Therefore the general mood aspect of EL can effect the interpretation of situations. Stress management is also an important ability in this step. If one is easily stressed and prone to anxiety, interpretation of cues as more stressful and anxiety provoking can occur.

Response Evaluation and decision involves the accessed responses being evaluated against a criterion (Lemerise & Arsenio, 2000). In this step interpersonal abilities are used to evaluate the social situation. Being aware of others, relating with others and understanding your role in the social environment is all important for evaluating a response. Furthermore, self control and independence from emotional dependency will allow a broader array of responses to be selected. Additionally, the ability to identify and define problems (problem solving) will allow for a greater generation of solutions and more effective solutions to be accessed.

Expression of emotion is the enacted behavioural outcome of processing activities and therefore it is the final step of processing. Behavioural skills, protocols and scripts are important for this step (Dodge, 1991). The adaptability ability in BarOn's model of EL involves being able to change your thoughts and feelings to different situations. Poor adaptability of emotion and thought can create rigid goal choices and antisocial behavioural choices.

### *1.10 Emotional Literacy and Crime*

In the above section on emotion and crime, studies suggested that offenders show many deficits in areas of emotional processing. Therefore, EL, which encompasses many factors of emotional processing, should bear a strong relationship to offending. Studies including aspects of both EL and crime are relatively rare. Many studies of EL and crime are unpublished doctoral theses and often rely on self-reported deviance in adolescent and college group samples, instead of inmate samples. Overall the research of EL in offender populations shows mixed results. Some studies have supported that low EL is related to crime and crime related behaviours (Mayer et al., 1999; Moriarty et al., 2001), while others suggest that only some specific aspects of EL have affects on crime and deviancy (Bora, 2003; Johnston, 2003; Lance, 2004; Puglia, Stough, Carter, & Joseph, 2005). Many studies also find little or no effect of EL and criminality (Bora, 2003; Hemmati, Mills, & Kroner, 2004; Hodges, 2004). The next section discusses these studies.

#### 1.10.1 Emotional literacy and deviancy

Emotional literacy has been extensively studied in regard to people showing antisocial behaviours but who have not been to prison. Self reported deviancy and EL was studied in 248 undergraduate students using the MSCEIT measure of EL (Bora, 2003). A factor analysis was conducted and the findings did not support the hypothesis that a degree of difference exists between the MSCEIT's four branches of EL and deviance. Emotional management was the only branch with a statistically significant, although small, effect on deviance. However, the effect of the overall EL model reached statistical significance with deviance. Lance (2004) also studied deviancy in a school sample of 150, using the Tapia's Emotional Intelligence Inventory (TII). Lance found that total EL was not significantly related to deviancy. Although, Lance did find a small negative relationship between two subscales of EL (ability to handle relationships and self control of emotion) and the amount of vandalism the children partook in, general deviancy, and assault scores.

Further studies of adolescent deviance and EL, using the Adolescent Multifactor Emotional Intelligence Scale (AMEIS) measure of EL have been undertaken. A thesis by Roy (2003).looked at antisocial and non-antisocial adolescents but did not find

statistical differences between the two groups and overall EL. Differences were not significant across measures for scores on the AMEIS, but did show that EL subscales and empathy measures were positively correlated. Another study compared the AMEIS measure of EL with a number of behaviour symptoms of conduct disorder (CD) and oppositional defiant disorder (ODD), (Dalal, 2007). Fifteen students with ages ranging from 13-17 years participated in the study. Statistical analysis indicated that the number of behavioural symptoms associated with CD and ODD was negatively correlated with two of the four branches of the AMEIS (identifying emotions and managing emotions). There was no significant result for total AMEIS score and behavioural symptoms of CD and ODD.

Overall these studies show a few significant, but weak, relationships between EL and deviancy. Relationships between subscales of EL and deviancy appear stronger than a total measure of EL.

In contrast to the measures used above, the BarOn EQ-i: youth version (Baron EQ-i: YV) was used to study relationships between EL and aggression in adolescents aged 11-14 years (Johnston, 2003). This study had more promising results with a significant negative correlation between EL and aggression. Sub components, stress management, and intrapersonal measures were the most significant predictors of physical aggression. This is one of the few studies to find statistically significant correlations between total EL and deviant behaviour, rather than weak relationships between the subscales of EL. This study using the BarOn social-cognitive model of EL offers more substantial support for the role EL has in predicting deviant behaviour of adolescents.

Overall, EL studies following adolescents using self reported deviancy data find statistically significant relationships between deviancy and EL, although they are relatively weak and are often only significant for certain subscales rather than total EL. Many of these studies explained the weak relationships between EL and deviancy to be caused by the sample, for example adolescents may still be in the process of developing their emotional skills and therefore may not answer questions accurately or articulate their answers. Adolescents may also struggle to take the MSCEIT test of EL as it is purely cognitive and requires skills in discriminating emotional features. Furthermore, antisocial adolescents may not have developed the skills required to take this test

(Moore, 2005). However, the sample by Johnston (2005) also used young participants and found statistical results between total EL and deviancy. This suggests that the BarOn model of EL is a more sensitive measure to the differences in emotional processing and deviancy in adolescents.

#### 1.10.2 Emotional literacy and offenders

The studies reviewed above compared self-reported delinquency in individuals who scored high versus low on EL, using a general population sample. Such samples may not contain instances of extreme values of either EL or delinquency. Because of this, the ability to detect any relationship between delinquency and EL may be hindered. Studies comparing juvenile offenders with juvenile non-offenders may be more helpful in assessing this link, as these samples have had police contact and/or have been imprisoned for offending- a sure sign of deviancy and not based on self-report.

One particular study used a number of assessments that measure many different aspects of emotional functioning. Moriarty (2001) used a battery of emotional tests, *designed to assess EL*. Moriarty used the Toronto Alexithymia Scale Revised (TAS) to assess recognition of emotions (alexithymia refers to a diminished ability to identify and/or communicate feelings; Kroner, 1995}, the Interpersonal Reactivity Index (IRI, designed to measure empathy), the Inventory of Interpersonal Problems (IIP-32) for measuring the difficulties people have in understanding feelings in their interpersonal relationships and the Trait Meta-Mood Scale (TMMS), designed to measure clarity of moods and the ability to repair moods. Although these measures do not measure EL per se, these measures have been found to be strongly and inversely related to EL (Eicken, 2003; Gohm, 2003; Newsome, Day, & Catano, 2000; Parker et al., 2001).

Moriarty' emotional functioning assessment of 15 male adolescent sex offenders (15-17 years old) found that juvenile sex offenders were less able to reflect upon their emotions and manage them, and had trouble identifying their own and others emotions compared to the control group. This was reflected in poor scores on the attention to feelings, clarity of feelings, mood repair and difficulty in describing and identifying feelings scales. Sex offenders were also less clear about their feelings, and less capable to repair unpleasant moods and prolong positive ones. Juvenile sex offenders found it harder to

be sociable, assertive and supportive, were more aggressive and less caring when compared to the control group of non-offenders.

A discriminant analysis was performed to examine whether these tests used in the previous study could detect adolescents who had committed sex offences. The analysis found one discriminant function, with the largest contributor being 'clarity of feelings' factor, followed by 'too aggressive' and 'difficulty in identifying feelings' factors. Discriminant analyses using the battery of tests designed to assess EL functioning showed that 89.9 per cent of the sample were correctly allocated their respective groups (sex offender or non-offender). This suggests that tests designed to approximate aspects of EL have an ability to discriminate juvenile sex offenders from non-offenders, with fairly high accuracy based on poor emotional abilities. It is important to note that significant differences were found between the sex offenders and control groups in this study, unlike Roy (2004) and Lance (2003). This study used an inmate population of offenders as opposed to self reported deviancy in general-population samples (Moore, 2005).

The juvenile sex offenders in Moriarty's study did not differ from controls on measures of empathy, but in previous studies empathy deficits in sex offenders has been found (Kroner & Forth, 1995; Marshall et al., 1995). Marshall et al. (2001) suggest that a lack of empathy specific to the victim acts as a self-serving bias which allows the sex offender to overcome any internal inhibitions or emotional disturbances they might otherwise feel. Marshall et al., (1995) also suggested that empathy deficits are person specific and not general deficits i.e. sex offenders are able to show empathy toward some people. Thus, knowing what empathy is and how to show it seems likely in offenders however, their choices in when to use empathy may be quite different to the standard population.

Another study of sex offenders using the MSCEIT measure of EL was undertaken by Puglia and colleagues (2005). This study assessed adult male offenders; nineteen sex offenders, 18 non-sex offending prisoners and 19 controls (non-offenders). Puglia and colleagues found that sex offenders displayed some deficits in areas of emotional functioning including; empathy, emotion perception, management of negative emotions and interpersonal relationships. However the scores in total EL for male sex offenders

did not differ significantly to the non-sex offender prisoners and normal controls' EL scores. In fact, sex offenders showed *higher* EL scores on all branches of the MSCEIT test than non-sex offender prisoners and the control group, and only the "perception" branch of EL reached significant difference between groups. Although this finding contrasts with previous studies that have found deficits in emotional functioning in sex offenders (Hudson et al., 1993; Marshall et al., 2001; Moriarty et al., 2001) the MSCEIT has also failed in previous studies to find significant differences between offenders and non-offenders in total EL (Hodges, 2004; Puglia et al., 2005).

Because the sex offenders in this study did not show emotional deficits compared to non-sex offender prisoners and the control, it lends support to the contention that emotional deficits found in sex offenders are specific to the circumstances in which the offence occurs. This suggestion is supportive of studies that find that sex offenders offend as a coping strategy in times of interpersonal stress (Cortoni & Marshall, 2001). Furthermore, high EL can be used for malevolent purposes (Mayer, 2001) and sex offenders may be utilizing their EL abilities to manipulate victims.

Cornell, (2003) studied EL in a comparison of differences within 1000 adult inmates using the MSCEIT test of EL. Cornell found no significant difference in EL and special education, type of crime and number of disciplinary reports. Even though overall the results were not significant for EL and crime, the inmate population had an EL score of 85.29 which was almost one standard deviation below the mean of 100. Those that had learning difficulties had an EL score of 74.07. The fact that EL scores were lower than the normal population scores is suggestive, even though it was not significant. Of the demographic variables EL was significantly related to academic functioning, ethnicity, and the interaction between ethnicity and gender. Emotional intelligence showed no predictive relationship to the type of crime committed.

Using the BarOn EQ-i model of EL, (1997), Hemmati and colleagues (2004) examined the link between EL and offending in a study of 119 males offenders. Hemmati studied the correlation between the BarOn EQ-i and measures of psychopathology such as depression, hopelessness and suicide ideation. A strong relation between psychopathology and EQ-i was found in this study. This supports BarOn's findings that there is a relation between negative affect and depression. BarOn discovered that the

EQ-i was negatively correlated with scores of depression and hopelessness and scores of personality such as, interpersonal problems, anxiety, thinking disorders and social introversion in a normal population (BarOn, 2005).

Hemmati's study did support BarOn's contention that offenders would have a lower score on the EQ-i compared to those from a normative sample was supported but not significantly. Hemmati found that most EQ-i scale scores were higher for the offender population in this sample, than those reported for the normative sample by BarOn (1997). One area that was similar to previous claims by BarOn was that the EQ-i was more strongly related to psychopathology than IQ which reflects a personality inclusion view of EL rather than a purely cognitive view (Hemmati et al., 2004).

An unpublished doctorate study using the BarOn measure of EL compared parolees with non-offenders and found that parolees scored lower than the general norms for total EL score and in the interpersonal and intrapersonal composite scales (Smith, 2000). There was also a significant correlation between gender and EL. Females scored higher than males on the interpersonal scales. This is the only study to date that has shown differences between male and female offenders in EL. This study also found that parolees who had lost a parent had lower EL, and parolees that had been abused showed a negative correlation with the intrapersonal composite scale. Again, this is the first study that has taken life factors into account. Smith also found a significant correlation between EL and ethnicity. However, the BarOn normative group that Smith was comparing his parolees to was based on a North American population. The North American population may be different to the parolee's scores on EL because of cultural differences. Ideally, the parolees would be compared to a matched cultural and ethnic group.

A further doctorate study of an offender population was conducted by Knight (2005). Knight studied violent versus non-violent offenders using the BarOn EQ-i and found that the violent group did not obtain lower EQ-i scores than the non-violent group, and that EQ-i scores for both groups were not lower than that of the general population. Further analyses revealed that offenders with a juvenile criminal history, regardless of violent or non-violent behaviour, had a lower EL score (92.3) than offenders without a juvenile criminal history. When the offender group was compared together (violent and

non-violent offenders) there was no significant difference in EL score compared to the normative sample; these within group differences did not transfer to the general population.

To summarise, studies consistently find regulation, encoding, interpreting, attention, and poor response decisions in many types of offenders. However, studies that assess the link between models of EL and crime have been inconsistent. For both adolescents and adults, the results appear to be more significant in studies which involve participants that were in prison or on parole at the time of the study in contrast to those who used self reported deviance scores or who were not involved in the criminal system. Studies using the MSCEIT have found very few significant relationships between total EL and offending (Puglia et al., 2005), and also within demographic variables (Cornell, 2003), whereas the BarOn measure has found some significant results between crime and poor EL (Johnston, 2003; Smith, 2000) and in items similar to the BarOn (Moriarty et al., 2001). The BarOn EQ-i may be a more sensitive test because it assesses an array of non-cognitive abilities which are not based on an IQ level, as opposed to the MSCEIT which is found to measure primarily cognitive rather than social aspects of emotion.

### *1.11 Callous- Unemotional Traits and Emotional Functioning*

The callous unemotional (CU) personality style is characterized by a lack of guilt, remorse and emotionality (Dadds et al., 2005), an absence of empathy, shallowness and constricted emotions (Barry et al., 2000). These CU traits have the potential to be strongly linked to EL, as the EL framework has components that assess many of these traits. It is possible that EL may be useful as a predictive measure of CU traits and facilitate the classification of severe subgroups of antisocial people.

Emerging research has focused on the relation between the CU personality trait and psychopathy (Barry et al., 2000) and recently, the CU trait has been thought to differentiate a psychopathic subgroup within the antisocial people. CU traits such as lack of guilt, shallowness, insincerity and lack of empathy are very similar to adult conceptualizations of psychopathy (Cleckley, 1964) and it is believed by some that children who demonstrate these CU traits show signs of adult psychopathy in both affective and behavioural elements (Frick, Cornell, Bodin et al., 2003; Lynam, 1996). In

support of this claim, children with high CU traits and conduct problems show a greater variety and severity of antisocial problems (Frick, Cornell, Barry, Bodin, & Dane, 2003). For example, children with conduct disorder and high CU traits have more early contact with the police (Christian et al., 1997), show a reward dominant response style (similar to the avoidance learning deficit in psychopathic adults; Frick, 2005} and only the children with CU traits show the preference for thrill and adventure seeking activities (i.e. fearlessness; Wootton, 1997}. All of these factors shown in those with CU traits have been critical to many theories of psychopathic behaviour (Hare, 1991; Lynam, 1996). Table 1 shows a list of CU traits found in children and the corresponding affective component equivalents in adult psychopathy.

**Table 1: Callous-unemotional traits and PCL: SV Factor one items**

CU traits	Emotional Detachment in Psychopathy
<ul style="list-style-type: none"> <li>• Is unconcerned about the feelings of others</li> <li>• Does not feel bad or guilty</li> <li>• In unconcerned about schoolwork</li> <li>• Does not show emotions</li> <li>• Fails to keep promises</li> <li>• Does not keep the same friends</li> </ul>	<ul style="list-style-type: none"> <li>• Callous/lack of empathy for others</li> <li>• Lacks remorse or guilt</li> <li>• Fails to accept responsibility</li> <li>• Shallow affect</li> </ul>

(Frick, 2006)

### 1.11.1 Callous-Unemotional Traits and Emotion Processing in Psychopathy

The following sections discuss emotional functioning in youth with CU traits. Studies following temperament, low emotional reactivity, fearlessness and aggression highlight the extreme deficits that youth with CU traits show and the similarities to the psychopathy trait.

#### *Temperament*

Theories focusing on precursors to psychopathy found in children with CU traits are more prolific now as a result of the studies finding deficits in temperament in children with CU traits (Frick, 1998). It is proposed that children with CU traits may show the same low behavioural inhibition system (BIS) and high behavioural activation system

(BAS) as adults with psychopathy (Frick, 1998). When the BIS is overactive it may serve to focus attention on potential rewards, stimulating activities and cause trouble in delaying gratification and planning ahead. A BIS system that is underactive will cause a lack of responsitivity to cues of punishment, lack of responsitivity to cues of potential danger and harm, and abnormal processing of affective stimuli (Frick, 1998). Problems in regulating the BIS can have a number of consequences. A low BIS can place a child at risk for poor encoding of the important early precursors to empathic concern. This is evidenced in impairments to moral reasoning in youth with high CU traits (Fisher & Blair, 1998). Youth with high CU traits and an under-activated BIS show less distress from the negative effects of their behaviour on others (Blair, 1999; Kimonis, Frick, Fazekas, & Loney, 2006).

### *Emotional Reactivity*

Children with CU traits show specific encoding and interpreting emotional processing differences to various types of emotional stimuli such as pictures, faces and words (Blair, 1999; Frick & Morris, 2004; Loney et al., 2003). This low emotional reactivity can reduce sensitivity to empathy cues and disrupt the socialization of the conscience (Loney, Butler, Lima, Counts, & Eckel, 2006). This affective deficit in which children with CU traits show deficits in their emotional reactivity to negative emotional stimuli (Frick, Cornell, Barry et al., 2003) could underlie the cognitive and interpersonal deficits in individuals with psychopathy.

Children with CU traits show a lack of emotional reactivity to emotionally aversive pictures (Blair, Colledge, Murray, & Mitchell, 2001). Studies assessing emotional reactions to pictures use negative emotion eliciting pictures. For example in Kimonis (2003) study, a cognitive-affective dot-probe task was used in which, brief presentations of emotion eliciting picture pairs are shown on a computer. After the image pairs disappear, one of the two pictures is immediately replaced by an asterisk (the dot-probe). The participant then selects the key on the keyboard that corresponds to the location on the screen where the dot-probe appears. Distress is measured by taking the mean response time to different arrangements of image pairs. Normal individuals attend to emotional stimuli more than neutral stimuli and are therefore expected to respond more quickly to probes replacing distressing images because their attention is immediately on the distressing image over the neutral image. This normal response would result in an

overall shorter mean response time to distressing pictures. A lack of attention to the distressing pictures would be indicated by a mean response time which is longer than the mean response time to neutral pictures. Using this method of assessing facilitation to emotional pictures in children, Kimonis (2003) found weak support for the connection between CU traits and slower reaction times to negative images. In a follow up to this study (Kimonis, Frick, Fazekas et al., 2006), it was found that there was a negative correlation between proactive aggression and facilitation of distressing pictures, i.e. that children with higher scores on aggression which is non-impulsive, planned and cold blooded showed reduced responsiveness to distressing stimuli (less emotional facilitation). These results suggest that children who show a combination of both high proactive aggression and CU traits are the ones that show poor facilitation to distressing pictorial stimuli.

Another method of measuring emotional reactivity to emotional images is using autonomic indicators. One study examining psychological arousal to emotional images using the skin conductance response found that children with psychopathic tendencies showed less sweating in response to distress and threat images compared to children without psychopathic tendencies (Blair, 1999). Furthermore, studies of the CU dimension in adults have also found that CU traits are related to the attenuated eye blink startle response (Patrick, 1994). In this measure of emotional reactivity, affective states were manipulated by presenting emotionally evocative and neutral slides to subjects. Acoustic startle probes (i.e. sudden noise bursts) occurred during some of the slide-viewing intervals, and reflex blinks to the probes were measured. The CU dimension of psychopathy was uniquely related to a reduced startle response when viewing negative emotional stimuli (i.e. slides of mutilations, assaults, and direct threat), suggesting that adults showing CU traits were less affected by negative pictures than those showing no signs of CU traits. Although there are contradictory results with studies of autonomic responses to aversive emotional pictures it seems that there are definitely deficits in the reactivity to these pictures. Whether these are linked more to Factor 1 items of the PCL-R or Factor 2 is debatable.

CU traits have also been related to a lack of emotional reactivity to aversive words (Frick & Morris, 2004; Loney et al., 2003). Lexical tasks have been used to gauge emotional reactivity in people with CU traits (Loney et al., 2003). A lexical decision

task involves participants being presented with letter strings and asked to quickly identify the strings as either words or non-words. Words that incite positive emotions are presented, as well as negative words that incite emotions such as sadness, anxiety, fear and emotionally neutral words such as item or cup that do not have strong emotional connotations. The difference between participants speed of recognition for emotional versus non-emotional words is measured and can be viewed as assessing the automatic allocation of attentional resources to emotional material (encoding). In a study using this emotional reactivity paradigm, children with CU traits were uniquely associated with a decreased reaction time to negative words (Frick & Morris, 2004; Loney et al., 2003). However in a study by Lima (2004) the opposite was found. Those with CU traits did not show negative response facilitation to negative words. It is possible that in this study the emotional words of the cue task may not have been emotionally strong enough for the study group. The majority of studies following CU traits and emotional reaction to words support the contention that those with high CU traits show slower emotional reactivity to negative words.

The ability to process emotional expressions is essential for normal socialization and interaction (Blair et al., 2001) but, children with CU traits have shown reduced responsiveness to facial expressions (Blair et al., 1995). In studies focusing on facial expressions, children are presented with a set of pictures depicting varying emotions. While observing the pictures, the neutral faces are gradually morphed through different stages into a prototypical expression. Children with CU traits needed more stages of change in the facial recognition test before they could recognise sad expressions. Mistakes were made in recognising fear, even when it was at full intensity (Blair, 2001). Although deficits were found for fear recognition, there were no significant differences for facial expressions showing happiness, anger, disgust or surprise. These results have been supported in other studies too (Dolan & Fullam, 2006; Kosson et al., 2002). These results show that children with CU traits show a clear deficit in the interpretation of facial expressions; they took longer to recognise expressions and showed very poor interpretation of fear and recognition of sadness.

Overall the results of these studies have found that children and some adults with CU traits show low emotional reactivity in response to negative stimuli. Both lexical and image emotional reactivity paradigms have produced contrasting results in groups of

children with CU traits. It is possible that the stimuli used were not emotionally salient enough to generate the results typical in other studies. Facial expression studies are more consistent with repeated findings showing that children with CU traits fail to attribute sadness, take longer to recognise emotions and get confused between facial expressions of fear. In general, these emotion reactivity findings from studies of children with CU traits suggest that a low emotional reactivity deficit related to poor encoding and interpretation of negative emotional stimuli is central to the CU trait.

### *Fearlessness*

Children with CU traits also show fearlessness i.e. they have weakened sensitivity to cues of punishment and negative outcomes (Morris, 2007). Lykken (1967) states that impairments in fear reactivity disrupt the normative development of conscience and behavioural control. These deficits in turn lead to a severe and persistent pattern of antisocial behaviour. Pardini (2006) believes that these low levels of temperamental fearfulness are a particular risk factor for the development of CU traits as temperamentally fearless children are believed to exhibit insufficient arousal to promote the internalization of social rules during discipline. In support of this contention, Barry (2000) found that a group of children high on CU traits showed a lack of fearfulness, the children were less distressed by their behaviour problems than children with conduct problems and no CU traits. Additionally, Frick (2006) found that children high on CU traits were less distressed by the effects of their behaviour on others, which implies a reduced fear of punishment. These results show that CU traits are associated with lower emotional distress and advocate that CU traits may cushion the amount of personal distress experienced by youths during threatening events.

### *Negative Affectivity*

Another example of emotional deficits in children with CU traits is the level of negative affectivity. Negative affectivity is a set of global traits that reflect one's general approach to life. People high in negative affectivity are more likely to experience emotional distress, anger and anxiety. Children with CU traits show low levels of anxiety or distress when faced with peer rejection, discipline and other negative events (Barry et al., 2000), and therefore, children with CU traits show low negative affectivity (Blair et al., 2001; Frick, 1998).

Overall, studies of CU traits in children consistently find deficits in emotional abilities. Consistent with the low BIS hypothesis children that present antisocial behaviour and high CU traits show a low fearfulness, a lack of empathy and perspective taking and a lack of emotional reactivity to negative emotional stimuli. It would appear that CU traits in children share many similarities with affective components of adult psychopathy and a potential relation to a measure of EL

#### 1.11.2 Emotional literacy and psychopathy

Although many studies look at CU traits and all the subcomponents of emotional processing, only two studies have assessed EL as a marker for emotional and social functioning in those with CU traits. Camp and colleagues (Camp, Skeem, Loudon, Asher, & Molinar, 2006) looked at dating violence, psychopathy and emotion abilities in a group of college students. A psychopathy scale was used that yields three factors; cold-heartedness, fearless dominance and self-centred impulsivity. These three factors are all part of the CU trait. It was found that the factors that closely assimilated CU traits were negatively associated with emotional abilities. Low emotional perceiving was related to a fearless dominance response style, low empathy was related to cold-heartedness and low emotional understanding was related with self-centred impulsivity. This study used a student sample, and as such, is not generalizable to an offender population; however, the results are promising by proposing that CU traits are uniquely related to aspects of EL.

A study that did use an inmate population to assess the relationship between components of CU and EL was conducted in 2008 (Malterer, Glassa, & Newman, 2008). The Trait- Meta Mood Scale (TMMS) was used as a self-report index of EL that assesses an individual's ability to monitor, evaluate, and regulate feelings and emotions. The sample consisted of 439 adult male inmates. This study was based on a research paper by Newman and Lorenz (Lorenz & Newman, 2002) that stated that low fearfulness individuals had significantly lower scores on the TMMS repair and attention scales compared to controls, specifically that the F1 of the PCL-R had a significant negative association to the attention scale. Malterer et al., (2008) hypothesis that Factor 1 of the PCL-R will relate to different components of EL specifically attention to affective information was supported. Participants with high scores of Factor 1 of the

psychopathy construct reported less inclination to pay attention to their emotions. This study also found that deficits in EL were associated with total scores on the PCL-R.

The two studies focusing on EL as a broad non-cognitive construct and its link to CU show support to show that CU is negatively associated with EL. Specifically, perception and attention to emotions and low empathy and understanding of emotions were associated with CU traits (as assessed by psychopathy measures). The next section examines the link between CU traits and criminality.

### *1.12 Callous-Unemotional Traits and Crime*

#### 1.12.1 Callous-Unemotional Traits and antisocial behaviour

It has been proposed that high CU traits are associated with crime (Frick, 1998). As previously discussed, CU and psychopathy are conceptually linked. On the interpersonal level, individuals with this disorder typically present as grandiose, arrogant, callous, dominant, superficial, deceptive, and manipulative. Affectively, they are short-tempered, unable to form strong emotional bonds with others, and lacking in empathy, guilt, remorse, or deep-seated emotions. These interpersonal and affective features are associated with a socially deviant lifestyle that includes irresponsible and impulsive behaviour, and a tendency to ignore or violate social conventions and morals (Hare, 1991). Although not all psychopaths come into formal contact with the criminal justice system, their defining features clearly place them at high risk for crime and violence (Hare et al., 2000). So it is conceivable that antisocial children with high CU traits may also commit offences. Distinguishing children who show conduct problems and a high level of CU traits may lead to the identification of children that show extreme patterns of persistent antisocial behaviours and may allow for the isolation of a severe behavioural presentation found earlier in development when there is a greater malleability and treatment responsiveness (Butler, 2004).

The following sections show that children with CU traits are more likely to show a life-course persistent style of offending, higher levels of aggression and violence towards others. Research has identified that children with elevated levels of CU traits from forensic facilities (Frick et al., 2005), mental health clinics (Christian et al., 1997) and schools (Frick, Cornell, Bodin et al., 2003) display a particularly severe, aggressive and

stable pattern of conduct problems (Marsee, 2005; Pardini, 2006). Specifically, children who exhibit conduct problems and CU traits have characteristics such as preferences for novel and exciting stimuli (Frick, 1998; Wootton, Frick, Shelton, & Silverthorn, 1997), higher recidivism (Cale & Lilienfeld, 2002), instrumental aggression, higher rates of self-reported delinquency and more police contact than those who have conduct problems but do not show CU traits (Frick, 1998; Frick, Cornell, Bodin et al., 2003; Frick et al., 2005). Lynam (1996) suggested that this severe subgroup of antisocial children are likely to show dimensions of psychopathy and conduct problems which will lead to poor adult outcomes such as criminal behaviour.

### 1.12.2 Callous-unemotional traits and links to crime

#### *Stability*

Children with CU traits and conduct problems tend to think positively about their aggression (Pardini et al., 2003) and also show fearlessness (Frick, 1998). Because of these traits children with CU traits and conduct problems think positively about the outcomes of aggressive actions and also show little fear for punishment. This may cause stable antisocial behaviour. Silverthorn and Frick (1999) found that antisocial children with high CU are more likely to have childhood onset antisocial behaviour, much like LCP offenders. LCP offenders have poor impulse control, low behavioural inhibition, pro-active aggression and an offending style that is stable, severe and particularly violent. Many of the characteristics of LCP offenders can be mapped onto the CU interpersonal style (Kochanska, 1993). For example, a longitudinal study spanning the last thirty years has been conducted with a New Zealand birth cohort which found that men who showed significant conduct problems before adolescence were 55% more likely to have criminal convictions as adults (Moffitt & Caspi, 2001). Factor analysis of this group found that they were characterised by a lack of guilt, lack of empathy and a lack of emotional expression, which are the main aspects of the CU trait. Although this study does not prove stability of offending in CU traits, Dadds and colleagues (Dadds et al., 2005) did find that young antisocial children with CU traits showed a better prediction of persistence of antisocial behaviour than just antisocial behaviours without the presence of CU traits. However, this was only true for young boys (aged 4-9) and

adolescent girls. A longitudinal study of this group may produce more meaningful results.

A study spanning four years has also supported the contention that children with CU traits show stability of antisocial behaviour. Frick and colleagues (2005) followed ninety-eight children over a four year period and found that children who showed high CU traits and conduct problems had the highest number of conduct problems at each of the measuring points over four years. This study highlights the difference that CU traits make to the stability of antisocial behaviour. Additionally, Frick (2005) found that this CU trait and conduct problem group had higher parent reported police contacts accounting for around 50% of police contacts over all four years. Overall, this study found that CU traits differentiate between children with conduct problems who show chronic and severe offending and those that show less stable and severe offending.

In an adult offender sample continual offending was recorded by a measure of recidivism. Recidivism is the repetition of criminal behaviour after having been convicted of prior offences. Salekin and colleagues (Salekin et al., 1998) found that Factor 1 of Hare's PCL measure of psychopathy was significantly correlated with recidivism in females; however for males a significant correlation required both Factor 1 and Factor 2 components. Salekin's study suggests that the CU component of the PCL is linked to recidivism, especially in females. This is important as it suggests that aspects of CU such as remorseless and callousness may play a part in the continuity of offending. However, this sample was only studied for one year and does not prove stability.

### *Aggression*

CU traits are associated with a tendency to overestimate the probability that positive consequences will result from aggression and underestimate the probability of experiencing negative consequence from the result of violence (Kimonis, 2003; Kimonis, Frick, Boris et al., 2006; Pardini et al., 2003). This may result in the use of violent, instrumental aggression without fear of punishment. Based on the link between low levels of fearfulness and aggression it is assumed that children who show CU traits will be aggressive.

There have been mixed findings in relation to CU traits and types of aggression. It has been suggested that proactive aggression (aggression related to taking the first move i.e. not in retaliation) is linked to CU traits (Kimonis, 2003), and is the most common form of aggression in the subgroups of antisocial children who are high in CU traits (Frick, Cornell, Bodin et al., 2003). Proactive aggression is often associated with more severe forms of conduct problems, (Frick, Cornell, Bodin et al., 2003), less internalizing symptoms, reduced emotional reactivity (Morris, 2007) and a reduced responsiveness to distressing stimuli (Kimonis, Frick, Fazekas et al., 2006). High overt aggression (observable direct aggression) has also been linked to CU traits (Aucoin, 2005). Juvenile offenders who had at least six police contacts and high CU traits demonstrated high overt aggression. These same children showed emotional dysfunction and were more likely to show behavioural problems and suffer from lower identity formation, self concept and self esteem (Aucoin, 2005). Proactive and overt aggression may be contributing factors to the development and continuity of CU traits in children

The above studies focused primarily on males however, gender differences in types of aggression are apparent when females are studied. Marsee (2005) found that CU traits in girls were linked to proactive relational aggression. Relational aggression is aggression aimed at attacking a person rather than an object using manipulative and covert techniques such as spreading rumours and gossiping. Butler (2004) also studied girls and found that relational aggression was more strongly related to girls with CU traits and conduct problems. The findings from these studies suggest that while males show proactive overt aggression, females tend to rely on more proactive relational aggression.

### *Violent offending*

The CU dimension of Hares psychopathy checklist appears to be particularly important for classifying and predicting a more severe and violent pattern of adolescent offending over and above the antisocial factor of the checklist (Essau, Sasagawa, & Frick, 2006). Vincent and colleagues (2003) discovered in a cluster analysis that it is the CU traits that are the most important features in the identification of serious, violent and chronic offenders (compared to impulsive/hyperactive traits). CU traits have also been associated with violent sex offending and with patterns of violence that include instrumental and sadistic violent acts in institutionalized adolescents (Frick, Cornell, Barry et al., 2003).

In summary, CU traits in children who show conduct problems designate a specific group that show a persistent, impulsive and violent type of offending. High CU trait children are more likely to have more police contact, show many forms of aggression (specifically proactive and instrumental aggression), and higher recidivism than conduct problem children without CU traits. Studying CU traits and their link to crime can isolate these groups that have a high risk of future offending.

## CHAPTER TWO

### 2. METHOD

#### *2.1 Participants*

Sixty volunteer female offenders from Christchurch Women's Prison, Arohata Women's Prison and Christchurch Community Probation Services participated in this study. The women had all been convicted and charged with offending, with 53.3% convicted of a non-violent offence and 46.7% convicted of a violent offence. Non-violent offences included, shoplifting, driving charges, fraud, receiving, perverting the course of justice, unlawful possession and drug related offences. Violent charges included robbery, murder, grievous bodily harm, assault and intent to injure. Ages ranged from 17 to 60 with a mean of 33.07 years. There was a range of ethnicities including Maori (46.7%), Pakeha (26.7%) and Pacific Islander (10%), with others identifying themselves as New Zealander, Maori New Zealander, Australian or Indian (16.6%).

#### *2.2 Measures*

This study used three measures; a demographic questionnaire, and two standardised measures; the Bar-On EQ-i test of Emotional Intelligence and Hare's PCL: SV test of psychopathy. The Bar-On EQ-i was used as a measure of EL and the PCL: SV factor one was used as an indication of CU traits.

##### *2.2.1 Demographic Questionnaire*

The demographic questionnaire (Appendix A) gathered information such as, age, ethnicity, education, marriage status, number of children, use of violence and amount of childhood abuse. As well as this information a RoC\*RoI score was taken from the file. The ROC\*ROI measure is an expression of the likelihood that a person will be both reconvicted in the next five years, the seriousness of the re-offending and the likelihood of imprisonment for that offence. The offender's Risk of Re-Conviction is multiplied by the offender's Risk of Imprisonment. These measures derive from the mathematical relationship between basic social and demographic variables such as gender, age at first

conviction, previous convictions, time in the correction system, time between offences, seriousness of previous offending, type of offending and the current offence. Scores range from 0-1 and show a probability of imprisonment as low, medium or high.

### 2.2.2 Bar-On EQ-i

The Bar-On EQ-i test of Emotional Intelligence (see Appendix B for an overview) is a self-report measure of emotionally and socially intelligent behaviour that provides an estimate of emotional-social intelligence (EL). The EQ-i is the first measure of its kind and is the most widely used measure of emotional intelligence (BarOn, 2005). The Bar-On EQ-i centres on the ability to be aware of, understand, and express oneself, the ability to be aware of, understand, and relate to others, the ability to deal with strong emotions, and the ability to adapt to change and solve problems of a social or personal nature (BarOn, 1997; Stys & Brown, 2004). It is hypothesized in this model that people with a higher than average EQ-i will be more successful in meeting the demands and pressures of the environment and those whom demonstrate a below-average EQ-i may lack in success and show signs of emotional problems.

The EQ-i contains 133 items in the form of short sentences and employs a 5-point likert response scale with responses ranging from "very seldom or not true of me" (1) to "very often true of me or true of me" (5). The EQ-i takes approximately 40 minutes to complete and renders a total EQ score and scores on 5 composite scales. The five composite scales include fifteen subscales which are listed below (Table 2).

**Table 2 Bar-On's Model of Emotional Intelligence**

<b>Composite Scales</b>	<b>Sub-Scale Items</b>
Intrapersonal	Self Regard Emotional Self-Awareness Assertiveness Independence Self-Actualization
Interpersonal	Empathy Social Responsibility Interpersonal Relationship
Adaptability	Reality Testing Flexibility Problem Solving
Stress Management	Stress Tolerance Impulse Control
General Mood	Optimism Happiness

(Stys & Brown, 2004)

A description of the subscales from the BarOn EQ-i technical manual (BarOn, 1997) are given below;

- Intrapersonal Composite Scale assesses the inner self
  - Self-Regard -ability to respect and accept oneself as basically good.
  - Emotional Self Awareness- ability to recognize one's feelings, and to differentiate among them.
  - Assertiveness- ability to express feelings, beliefs, and thoughts and defend one's rights in a non-destructive manner
  - Independence- ability to be self-directed and self-controlled in one's thinking and actions and be free from emotional dependency
  - Self-actualization- ability to realize one's potential capacities
  
- Interpersonal Composite Scale assesses interpersonal skills and functioning.
  - Empathy- ability to be aware of, to understand, and to appreciate the feelings of others.
  - Social responsibility- ability to demonstrate oneself as a cooperative, contributing, and constructive member of one's social group.
  - Interpersonal relationship- ability to establish and maintain mutually satisfying relationships that are characterized by intimacy and by giving and receiving affection

- Stress Management Composite Scale reflects how a person will handle stress without losing control
  - Stress tolerance- ability to withstand adverse events and stressful situations without falling apart, by actively and positively coping with stress.
  - Impulse control- ability to resist or delay an impulse, drive, or temptation to act
  
- Adaptability Composite Scale assesses how successfully one is able to cope with environmental demands by sizing up and dealing with problematic situations
  - Reality testing- ability to assess the correspondence between what is experienced and what objectively exists
  - Flexibility- ability to adjust one's emotions, thoughts, and behaviour to changing situations and conditions.
  - Problem solving- ability to identify and define problems as well as to generate solutions and implement potentially effective solutions.
  
- General Mood Composite Scale assesses one's ability to enjoy life as well as one's outlook on life and overall feeling of contentment
  - Optimism- ability to look at the brighter side of life and to maintain a positive attitude even in the face of adversity
  - Happiness- ability to feel satisfied with one's life, to enjoy oneself and others, and to have fun

In order to facilitate comparisons among population sample scores, raw scores on the EQ-i are automatically tabulated and converted into standard T-scores based on a mean of 100 and standard deviations of 15. Several small gender and age differences exist and therefore these raw scores are standardised based on gender and age specific norms from the large normative sample. The standard mean of 100 represents average emotional functioning. Scores below 100 represent below-average emotional functioning and scores above 100 represent above average. The EQ-i has a built-in correction factor that automatically adjusts the scores based on results obtained from two validity indices, Positive Impression and Negative Impression. The validity

indices help to reduce the distorting effects of response bias and increases the accuracy of the results.

#### *2.2.2.1 Reliability*

The internal consistency is a reliability measure of the degree to which the items are measuring the same underlying construct. The Chronbach's alpha ( $\alpha$ ) assesses this. The reliability of the EQ-i has been examined over the past 20 years and has been found to be consistent, reliable and stable (BarOn, 2005). The EQ-I has good internal consistency with a Chronbach alpha coefficient reported at 0.97 {BarOn, 1997}.

#### *2.2.2.2 Construct Validity*

The EQ-i correlates higher with other measures of emotional social intelligence than with measures of constructs such as cognitive intelligence and personality. The EQ-i has the *least* amount of overlap with tests of cognitive ability and a *greater* degree of overlap with personality tests. However, the most recent meta-analysis suggests that the degree of overlap between the EQ-i and personality tests is no more than 15% (Van Rooy & Viswesvaran, 2004). This overlap is small and suggests that the EQ-i is measuring something else other than personality traits. The skills assessed by the EQ-i tend to be more malleable and can increase with age which is different to personality traits (BarOn, 2005).

#### *2.2.2.3 Convergent Validity*

In support of the hypothesis that EQ-i may be a measure of success in coping with environmental demands and well being, total EQ-i scores have been shown to correlate with measures of attribution style, overall life satisfaction, emotional stability, measures of job performance and satisfaction (for a review of these studies see Palmer, Manochab, Gignaca, & Stough, 2003). Total EQ-i scores also correlate negatively with measures of poor emotional health such as depression, and shows convergent validity with alexithymia (the inability to express feelings with words; Parker, Taylor, & Bagby, 2001).

### 2.2.3 Hare's Psychopathy Checklist: Screening Version (PCL: SV)

The Screening Version of the Psychopathy Checklist-Revised (PCL: SV; (Hart et al., 1995, see Appendix C for an overview)) stemmed from a dissatisfaction with the DSM-IV TR antisocial personality disorder criteria, which did not include interpersonal or affective symptoms (Hart et al., 1995). The screening version was developed as a more cost effective version of the Psychopathy Checklist-Revised (PCL-R) (Cooke, Michie, Hart, & Hare, 1999). The PCL: SV involves an in-depth semi-structured interview and collaboration from additional sources. The interview takes around one hour to administer and covers information concerning jobs, relationships, schooling and family life. The information gained from the interview and other collaborative material gives insights to the assessor on how to score the PCL: SV.

The PCL: SV is a 12 item scale split into two factors as shown in Table 3 below.

**Table 3 Factor Structure of Hare's PCL: SV**

<i><b>Factor One: Affective</b></i>	<i><b>Factor Two: Antisocial</b></i>
<i>Superficial</i>	<i>Impulsive</i>
<i>Grandiose</i>	<i>Poor Behaviour Controls</i>
<i>Deceitful</i>	<i>Lacks Goals</i>
<i>Lacks Remorse</i>	<i>Irresponsible</i>
<i>Lacks Empathy</i>	<i>Adolescent Antisocial Behaviour</i>
<i>Doesn't Accept Responsibility</i>	<i>Adult Antisocial Behaviour</i>

A description of the factor one (affective) items are listed below (Hart et al., 1995)

- Superficial- An interaction style that appears glib (superficial) to others
- Grandiose- Have an inflated view of themselves and their abilities
- Deceitful- Engage in lying, deception and manipulation in order to achieve their own personal goals
- Lacks Remorse- Lacks the capacity for guilt (no conscience)
- Lacks Empathy- Has little affective bonding with others and is unable to appreciate the emotional consequences of their actions; cold and callous.
- Doesn't Accept Responsibility- Avoids taking personal responsibility for their actions by rationalizing their behaviour and minimizing the consequences for others

### *2.2.3.1 Scoring the PCL: SV*

A combined score is based on the interview and collateral information gained. The scoring is subjective and requires inference and judgement. The PCL: SV items are rated on a 3-point scale and are summed to give total scores ranging from 0 to 24. A zero on this scale is given when the item does not apply to the participant at all or the participant exhibits traits that are opposite or inconsistent with the item. A score of one means that the item applies to a certain extent but with too many doubts to warrant a two. A score of two suggests that the item applies to the participant strongly in most aspects. A cut-off score of 18 or greater is used as a tool to screen for the possible presence of psychopathy.

In my research the PCL: SV was used as a measure of the CU trait. The CU factor has been found to load on F1 of Hare's two factor model (Harpur et al., 1988). It was hypothesized that the CU factor may predict emotional and cognitive empathy. For this reason, I only scored factor one (affective) items. This meant that there were six items assessed with the PCL: SV in this study. People who scored high on this factor (above 9) were seen as displaying weaknesses in their affective abilities. Because I did not score both factors it is impossible to suggest that someone is showing psychopathic traits.

### *2.2.3.2 Reliability*

Overall the internal consistency is about 0.84, an acceptable standard (Hart et al., 1995). Item one scores are generally more internally consistent and have greater item homogeneity than factor two scores (Hart et al., 1995).

### *2.2.3.3 Discriminate Validity*

Cooke and colleagues (Cooke et al., 1999) found that the interpersonal and affective (F1) items are more discriminating of the psychopathy construct than are the socially deviant (Factor 2) items. Moreover, PCL-R F1 (interpersonal/affective features) was as predictive of violence as Factor 2 (socially deviant lifestyle). Violence is measured in the current study so it is important that Factor one is predictive of violence.

### *2.2.3.4 Convergent Validity*

PCL: SV total scores are found to be positively correlated with antisocial, narcissistic and borderline personality disorders and negatively correlated to variables within the big five personality model; agreeableness, conscientiousness, extraversion, openness, and neuroticism(Hart et al., 1995).

#### *2.2.3.5 Scoring of the PCL: SV F1*

Training for the scoring of the PCL: SV was undertaken in supervision by Nick Wilson, Senior Advisor of Research for the Department of Corrections. Evidence of item responses and final scores were checked by a principal psychologist from the Department of Corrections, who is experienced in the assessment of the PCL: SV. Her comments suggested strong inter-rater reliability based on 1/6<sup>th</sup> of the sample reviewed.

### *2.3 Materials*

Each participant was seated at a desk with a pencil and rubber. Participants were then administered the demographic questionnaire and the Bar-On EQ-i. Participants had the choice of reading the statements themselves or having them read to them. The Hare's PCL: SV was then administered; this involved the researcher asking the participants about their lives. These questions were based on the interview guideline for the PCL: SV.

### *2.4 Procedure*

University of Canterbury Ethics Committee approval was obtained before the study commenced (Appendix D) Participants were recruited by a) placing advertisements on prison notice boards and b) appealing for participants during lunch gatherings. As part of the recruitment an explanation was given that stated that this was a study for a Masters thesis on emotions in female offenders undertaken at the University of Canterbury. It was explained that the study was voluntary and that participants could pull out at any time. No incentives were offered as per the Department of Corrections research guidelines. The importance of confidentiality was stressed. People who were interested approached me afterwards and looked over an information sheet that explained the study in more detail (Appendix E) and then signed a consent form (Appendix F). For participants from Christchurch community services an incentive was

offered in which the time spent participating in the interview was taken off their community work sentence.

Once participants had signed up, read the information sheet and signed the consent form times were made for the interviews. Unit managers of the prisons and community service supervisors were consulted to arrange times and dates in which to interview participants.

Participants were individually brought to the interview room. Participants were reminded that this was a study about emotions in female offenders. It was also explained that the study was confidential and that only the researcher and their supervisor would see any raw data and that no names would be entered onto any of the questionnaires. Participants were then able to ask questions and had the choice to withdraw from the study if they chose (this was also a condition throughout the time during the interview). Participants were given time to say anything specific before the interview began (i.e. a *karakia* or prayer). It was explained that for all the questions they were to try and answer as honestly as possible and that if they did not want to answer any questions they were welcome not to.

The Bar-On EQ-i was then administered and the interview for Hare's PCL: SV conducted. Most participants took the option of having the statements of the BarOn EQ-i read to them. Time to administer the PCL: SV varied depending on how willing participants were to discuss aspects of their life. On average this informal interview took an hour. After completing the interview participants were asked if there were any more questions and thanked for their time. No debriefing was required.

Data from inmate participants' prison files and community service participants' records were obtained and used to complete information sheets for the PCL: SV, including age, marital status and number of children. In order to categorise violent and non-violent offenders, information pertaining to current and previous convictions was also obtained as well as information such as most serious offence, number of convictions, number of serious convictions, number of court appearances, and total time of expected imprisonment for offence career.

Consistent with prior research there are three hypotheses: Firstly, if the EQ-i is predictive of success in life, (BarOn, 1997; Mayer et al., 2001), then offenders' scores on the EQ-i should be lower than those of the normative sample. Secondly, if violent offenders show more severe emotional problems (Frick et al., 2005), then violent offenders should show lower EL abilities. Thirdly, if low EQ-i is related to aggressive behaviour and the inability to deal with emotions (Johnston, 2003; Roy, 2003) then EL items are expected to be inversely related to measures of psychopathy such as CU traits.

Three research hypotheses were investigated in the current study:

*Hypothesis 1:* That female offenders have lower EL scores than the normal population (non offenders)

*Hypothesis 2:* CU traits will be negatively correlated with EL.

*Hypothesis 3:* That violent female offenders will have an average EL score lower than non-violent female offenders.

## CHAPTER THREE

### 3. Results

#### *Sample Demographics*

The sample consisted of sixty female offenders, of whom 29 were located at Christchurch Women's' Prison, 11 were located from Christchurch Community Services and 20 were located at Arohata Women's' Prison in Wellington. Offence category was based on the type of offending in the last five years and the current offence. Twenty-eight (46.7%) offenders were classified as violent offenders and thirty-two offenders (53.3%) were classified as non-violent. The average age was 33.07 (SD= 11.4). 58% of the sample were single, 8.3% were married, 6.7% were divorced, 10% separated, 11.7% de-facto and 5% widowed. On average, the offender sample had 2.33 children. The ethnic distribution was Maori (48.3%), Pakeha (36.7%), Polynesian (11.7%), and Other (3.3%).

The majority of the sample (73.33%) had not received any formal education qualifications and left school before 5<sup>th</sup> form. Among the remainder, 15% of participants finished 5<sup>th</sup> form, 1.7% 6<sup>th</sup> form, 6.7% university entrance and 3.3% gained a tertiary qualification.

#### *Behavioural history*

Over a third (36.7%) of the sample had a previous incarceration, and many had extensive criminal records (analyzed in detail below). 35% of this sample had attempted suicide at some point in their lives, 78.3% had histories of drugs and/or alcohol abuse. Histories of abuse were also obtained for these women from their responses to scales on the demographic questionnaire. Scales for emotional and physical abuse in childhood were assessed on a scale of 1-10. A score of 10 indicates extremely high levels of abuse. The means for emotional abuse and physical abuse were 6.52 (SD= 2.8) and 5.28 (SD=3.3) respectively. Total amount of abuse (out of 20) had a mean of 11.8 (SD= 5.5).

RoC\*RoI scores, generated using a statistical model by the Department of Corrections, utilize information from the offender's conviction history to estimate risk of reconviction

over the next 5 years. Thus, these scores also in some sense summarize the offender's behavioural history. RoC\*RoI scores were categorized into three broad bands: low, medium or high. 48.3% had a low score, 11.95% medium and 39.0% had a high score (RoC\*RoI could not be obtained for one person).

#### *Conviction history*

Conviction records were obtained for all but one of the sample, and were analyzed by creating a series of continuous variables that reflect the rate, seriousness and persistence of offending for each of the participants. Offence seriousness was quantified using the average number of days of imprisonment imposed by NZ courts for the offence in question (obtained from the Ministry of Justice). The variables were:

- 1) Age at first conviction (the age of the offender at the time of their first formal conviction in a NZ court)
- 2) Rate of convictions (number of convictions in the offence record divided by time since the offender turned 12),
- 3) Maximum seriousness, (the most serious offence in the individual's history)
- 4) Rate of serious offending (the number of convictions for offences attracting sentences of more than 180 days imprisonment, divided by time since the offender turned 12)
- 5) Rate of court appearances (number of court appearances resulting in conviction divided by time since the offender turned 12); a measure of the persistence of offending in the face of criminal justice processing,
- 6) Total seriousness (the most serious offence was identified for each court appearance, and the seriousness levels of these were then summed across court appearances and the sum divided by time since the offender turned 12).

The earliest conviction recorded by anyone in the sample occurred at age 12.

Accordingly, most of these variables correct for age of the offender by dividing the number of events in the record by time since age 12. The total seriousness variable represents the total amount of imprisonment that would be expected for the offence record (based on average sentences imposed), "annualised" by correcting for age.

Table 4 gives the means and standard deviations for conviction history variables and correlation matrix,

**Table 4: Mean, Standard Deviation and inter-item correlations for criminal history**

Variable			Inter-item correlations					
	Mean	SD	Max Ser	R. of Conv	R. of Serious Conv	R. of Court Appr	total seriousness per annum	Age at first offence
Max Ser	550.6	817.1	1.000	.141	.521**	.150	.698**	-.370**
R.of Conv	34.73	47.2		1.000	.475**	.817**	.223	-.423**
R.of Ser Conv	1.48	2.4			1.000	.394**	.626**	-.261*
R. of Crt Appear	10.98	10.2				1.000	.196	-.607**
total seriousness per annum	1123.23	1606.5					1.000	-.391**
Age at 1 <sup>st</sup> conv	21.02	7.74						1.000

Based on the correlation matrix, variables of criminal history show interesting patterns of association with each other. For example, correlations for most serious offence in criminal history are higher with other measures of seriousness as opposed to number of convictions or court appearances. An exploratory Factor Analysis (principal-component analysis) and rotation using the varimax with Kaiser normalization was performed to see if the variables fitted into a more succinct description of criminal history. The factor analysis resulted in a two-factor solution which provided a good fit in terms of eigenvalue, scree test and the amount of variance explained (76%). These super-ordinate variables explain 76% of the variance in criminal history. The loadings for the rotated component matrix are reported in Table 5, loadings of 0.7 or more are highlighted.

**Table 5: Factor analysis component loadings for criminal history**

	1	2
Max seriousness of offence	.050	<b>.891</b>
Rate of Conviction	<b>.904</b>	.104
Rate of Serious Conviction	.380	<b>.710</b>
Rate of Court Appearances	<b>.954</b>	.079
Total Seriousness per annum	.130	<b>.905</b>
Age at first conviction	<b>-.648</b>	-.342

Component one appears to be a measure of chronicity or repeat offending, component two is a measure of seriousness of offending.

### *3.1 Emotional Literacy*

Emotional Literacy was assessed using the Bar-On EQ-i, which was scored electronically by Multi Health Systems Incorporated in Australia. The means and standard deviations of scores on the overall total scale, 5 different composite scales and 15 subscales, are given in Table 3 below. The scales, subscales and index scores are expressed as T-scores which are the standardised form of the raw scores with a set mean (100) and standard deviation (15). The T-scores are gender and age specific.

#### *3.1.1 Indices of Validation of the BarOn EQ-i*

##### *3.1.1.1 Omission Rate*

The omission rate (OR) is a measure of the number of components that have not been answered. If the omission rate is above 6% test results are considered invalid. In this sample the OR was very small, less than 1%.

##### *3.1.1.2 Inconsistency Index*

The inconsistency index (II) score measures response inconsistency such as random or inconsistent responding. Visual inspection of the questionnaires showed no patterns that suggested specific item endorsement. However, the inconsistency index showed 20% (12

participants) of the participants with high inconsistency scores (>12). Analysis of the results excluding participants with high II scores indicated that there were no changes to the main analyses. No significantly different results occurred for the relationships between sample scores on total and composite scales of EQ-i compared to the sample norm, nor in the correlation result between CU traits and EQ-i or between violent and non-violent scores on the EQ-i. Advice from Multi Health Systems who scored the EQ-i suggested that because the inclusion of inconsistent scorers did not significantly alter any of the analyses then these participants could be included in the overall analysis.

#### *3.1.1.3 Positive and Negative Impression*

The Positive and Negative Impression scales (PI and NI) are scores designed to detect respondents who may be giving an exaggerated positive or negative impression of themselves. When scores on these scales exceed 2 standard deviations from the mean they are considered invalid. In this sample 20% of the participants scored >130 on the NI scale.

#### *3.1.1.4 Estimates of Error*

The Standard Error of the Mean estimates the degree to which the means would be expected to change if different sample sizes were drawn from the same population. For the current sample scores the standard error of the mean in the EQ-i scale is 2.6 points- rather small.

#### *3.1.1.5 Reliability*

In the current study the Chronbach alpha was 0.92. For the composite scales alpha ranged from 0.53-0.83 with a total  $\alpha = 0.88$ . This indicates high internal consistency and suggests that the BarOn EQ-i score is reliable in this offender population.

#### *3.1.1.6 Shape of the Distribution*

In the current study scores on the EQ-i scale had a skew score of -0.241, suggesting that scores are slightly more spread out at the low end than at the high end. Kurtosis describes the height of the distribution. For scores on the EQ-i scale in the current study, the kurtosis value was -0.603. This suggests that there was a slight peak but it was more

favouring the look of a normal distribution curve. Because both the kurtosis and skew are fairly low the scores approximate a normal distribution (bell shaped) and do not deviate significantly from normality. A Kolmogorov-Smirnov statistic will be used to test the assumption of normality when testing the main hypotheses relating to the BarOn EQ-i.

### 3.1.2 Emotional Literacy scores for Offenders

Here we examine the offender scores in relation to the published normative sample for the instrument (BarOn, 1997). Table 6 below gives the mean and standard deviation of offenders' EQ-i scores.

Table 6: T-scores and standard deviations for total EQ-i, composite and subscale scores for offenders.

Variables	All Offenders		Non-violent Offenders		Violent Offenders	
	Mean	S.D.	Mean	S.D.	Mean	S.D.
Total EQ-i score	87.77	20.339	88.25	21.699	87.21	19.046
Intrapersonal	92.67	19.667	93.66	20.929	85.18	20.539
Self Regard	99.75	16.767	96.91	18.497	103.00	14.176
Emotional Self Awareness	90.07	20.366	93.28	19.182	86.39	21.393
Assertiveness	95.85	20.341	96.65	18.994	94.96	22.055
Independence	97.07	18.874	96.34	19.152	97.89	18.867
Self Actualization	91.13	20.753	91.06	23.485	91.21	17.546
Interpersonal	89.70	21.010	92.84	20.271	92.46	19.323
Empathy	90.72	21.556	92.97	21.519	88.14	21.699
Social Responsibility	87.85	22.516	91.00	20.256	84.25	24.729
Interpersonal Relationship	95.93	19.327	100.03	20.391	91.25	17.210
Stress Management	89.35	18.184	87.56	18.739	91.39	17.643
Stress Tolerance	94.65	19.921	92.62	21.603	96.96	17.914
Impulse Control	85.80	18.409	84.94	19.566	86.79	17.296
Adaptability	89.10	19.603	89.84	20.480	88.25	18.889
Reality Testing	90.00	19.877	92.38	23.770	87.29	14.152
Flexibility	94.17	18.596	93.44	19.678	95.00	17.598
Problems Solving	89.83	20.049	89.81	15.445	89.86	24.587
General Mood	94.38	20.337	93.06	22.130	95.89	18.359
Optimism	96.48	22.554	96.88	24.116	96.04	21.058
Happiness	92.67	18.529	90.12	20.184	95.57	16.310
Inconsistency Index	8.90	3.825	9.22	3.990	8.54	3.666
Positive Impression	91.10	14.897	92.25	15.373	89.79	14.500
Negative Impression	115.77	21.697	113.59	20.834	118.25	22.767

To test the hypothesis that female offenders have lower EL compared to the normative population, a two-tailed one sample t-test will be employed to compare the sample mean and the normative sample mean. This test assesses whether there is a statistically significant difference in the mean scores for two groups. The t-test assumes homogeneity of variance and a normal distribution. A test of homogeneity of variance using the Levene Test of homogeneity was not significant ( $p > .05$ ) suggesting that the variances of the two groups are equal; samples are obtained from populations of equal variance. Normality was measured with the Kolmogorov-Smirnov Statistic and a non-significant result was obtained ( $p > 0.71$ ) suggesting that the EL scores have a normal distribution.

The normative sample used to compare the offender sample was reported by BarOn (1997) in the technical manual for the EQ-i and was based on 3,831 adults in North America in 1996. The original normative sample included individuals from every province in Canada and from almost all of the states in the United States. The gender and age composition of the sample included 49% males and 51% females from 16 to 100 years of age. The sample was 79% White, 8% Asian-American, 7% African-American, 3% Hispanic, and 1% Native American (2% of the respondents did not identify their ethnicity).

Table 7 shows the results of t-tests comparing offenders scores on the EQ-i to the normative sample. This hypothesis test used archival data from the normative sample to examine differences between EQ-i scores.

**Table 7: t-values and mean differences to the normative sample for EQ-i scores**

SCALES	T	sd	Mean Difference
TOTAL_EQ	-4.659**	20.339	-12.233
<i>INTRAPERSONAL</i>	-2.888**	19.667	-7.333
-Emotional self awareness	-3.778**	20.366	-9.933
-Assertiveness	-1.568	20.341	-4.153
-Self Regard	-.115	16.767	-.250
-Self Actualization	-3.309**	20.753	-8.867
-Independence	-1.204	18.874	-2.933
<i>INTERPERSONAL</i>	-3.797**	21.010	-10.300
-Empathy	-3.336**	21.556	-9.283
-Social Responsibility	-4.180**	22.516	-12.150
-Interpersonal Relationship	-1.630	19.327	-4.067
<i>ADAPTABILITY</i>	-4.307**	19.603	-10.900
-Reality Testing	-3.897**	19.877	-10.000
-Flexibility	-2.430*	18.596	-5.833
-Problem Solving	-3.928**	20.049	-10.167
<i>STRESS MANAGEMENT</i>	-4.537**	18.184	-10.650
-Stress Tolerance	-2.080*	19.921	-5.350
-Impulse Control	-5.975**	18.409	-14.200
<i>GENERAL MOOD</i>	-2.139*	20.337	-5.617
-Optimism	-1.208	22.554	-3.517
-Happiness	-3.066**	18.529	-7.333

(\* p<.05, \*\* p<.01)

Most EQ-i scores in this sample are lower than those reported for the normative sample by BarOn (1997). A one sample t-test of means indicated that total EQ-i scores for the female offender sample (M= 87.77, SD= 20.339) were significantly different to the normative North American Sample (M=100, SD=15) with a t-value of  $t(59) = -4.659$ ,  $p < .000$ , (2-tail). The average offender score on the EQ-i was nearly one standard

deviation lower than the normative sample. Only five of the 15 subscales showed no significant difference in means; Assertiveness, Independence, Self Regard, Interpersonal Relationships and Optimism (refer to Table 4)

Table 8 shows the results of t-tests comparing violent and non-violent offenders EQ-i scores to that of the normative sample, t-values, mean differences and standard deviations are listed for both violent and non-violent offenders on all the EQ-i scales.

**Table 8: Results of t-tests comparing violent and non-violent offenders EQ-i scores to the normative sample**

Total EQ-i, EQ-i composite and EQ-i subscales	Non-violent Offender (df=31)			Violent Offender (df=27)		
	t	s.d.	Mean Difference	t	s.d.	Mean Difference
TOTAL_EQ	-3.063**	21.69	-11.750	-3.552**	19.04	-12.786
INTRAPERSONAL	-1.997	20.27	-7.156	-2.064**	19.32	-7.536
Self Regard	-.946	18.497	-3.094	1.120	14.176	3.000
Emotional self awareness	-1.981	19.182	-6.719	-3.366**	21.393	-13.607
Assertiveness	-.983	18.994	-3.355	-1.208	22.055	-5.036
Independence	-1.080	19.152	-3.656	-.591	18.867	-2.107
Self Actualization	-2.153*	23.485	-8.938	-2.650*	17.546	-8.786
INTERPERSONAL	-1.715	20.92	-6.344	-3.818**	20.53	-14.821
Empathy	-1.848	21.519	-7.031	-2.891**	21.699	-11.857
Social Responsibility	-2.513*	20.256	-9.000	-3.370**	24.729	-15.750
Interpersonal Relationship	.009	20.391	.031	-2.690*	17.210	-8.750
STRESS MANAGEMENT	-3.755**	18.73	-12.438	-2.581**	18.88	-8.607
Stress Tolerance	-1.931	21.603	-7.375	-.897	17.914	-3.036
Impulse Control	-4.355**	19.566	-15.062	-4.043**	17.296	-13.214
ADAPTABILITY	-2.805**	20.48	-10.156	-3.292**	17.64	-11.750
Reality Testing	-1.815	23.770	-7.625	-4.754**	14.152	-12.714
Flexibility	-1.887	19.678	-6.562	-1.503	17.598	-5.000
Problem Solving	-3.731**	15.445	-10.188	-2.183*	24.587	-10.143
GENERAL MOOD	-1.773	22.13	-6.938	-1.184	18.35	-4.107
Optimism	-.733	24.116	-3.125	-.996	21.058	-3.964
Happiness	-2.768**	20.184	-9.875	-1.437	16.310	-4.429

(\* p<.05, \*\* p<.01, df=degrees of freedom)

Non-violent offenders (M=88.25, S.D = 21.69) and violent offenders (M=87.21, S.D= 19.046) were both significantly different to the normative mean with t-test values of t(31)=-3.063, p<.005 and t(27)=-3.552, p<.001 respectively (see Table 5). Violent

offenders scored higher than the normative population on the subscale self-regard. This is the only subscale that offenders scored higher than the norms in.

### 3.1.3 EQ-i score and behaviour history

Table 9 below lists the correlations (and F statistics for RoC\*RoI score) showing the relationships between EQ-i scale scores and behavioural history variables; drug abuse, suicide attempt, previous prison, abuse and RoC\*RoI

**Table 9: Pearson correlations (r) for EQ-i scales and behaviour history variables and F score statistic for RocRoI score**

SCALES	Drug Abuse	Suicide Attempt	Previous Prison	Abuse		RoC*RoI category F statistic
				Physical	Emotional	
Total EQ-i	0.01	-0.33**	0.16	0.14	-0.04	0.73
<i>INTRAPERSONAL</i>	0.10	-0.27*	0.28*	0.18	0.02	0.93
-Emotional self awareness	0.03	-0.24	0.27*	0.21	-0.15	2.42
-Assertiveness	0.16	-0.22*	0.24*	0.03	-0.07	2.18
-Self Regard	0.12	-0.27*	0.29*	0.19	-0.01	0.02
-Self Actualization	0.07	-0.25*	0.24	0.24	0.06	0.40
-Independence	0.07	-0.02	0.07	0.03	-0.04	0.50
<i>INTERPERSONAL</i>	0-.04	-0.21	-0.29	0.15	0.08	1.80
-Empathy	0.03	-0.13	-0.77	0.18	0.17	1.54
-Social Responsibility	-0.27*	-0.07	-0.22	-0.04	-0.02	0.00
-Interpersonal Relationship	0.16	-0.29*	0.15	0.22	0.10	4.65**
<i>ADAPTABILITY</i>	0.04	-0.29*	0.18	0.09	-0.07	0.64
-Reality Testing	0.07	-0.05	0.20	0.11	-0.01	2.10
-Flexibility	-0.10	-0.34**	0.16	0.11	-0.17	0.63
-Problem Solving	0.11	-0.34**	0.07	0.00	0.01	0.08
<i>STRESS MANAGEMENT</i>	-0.05	-0.29*	-0.02	0.11	-0.14	0.10
-Stress Tolerance	-0.01	-0.35**	-0.08	0.11	-0.19	0.05
-Impulse Control	-0.11	-0.13	0.14	0.04	-0.05	0.53
<i>GENERAL MOOD</i>	0.08	-0.31**	0.17	0.15	-0.03	0.84
-Optimism	0.09	-0.26*	0.24	0.15	-0.02	1.8
-Happiness	0.03	-0.34**	0.17	0.16	-0.05	0.15
Negative Impression	0.24	0.28*	-0.44	0.10	0.14	1.55
Positive Impression	-0.26*	-0.37**	0.07	0.12	-0.21	2.14

p<.01\*\*, p<.05\*

The table above shows that abusing drugs was significantly related with higher negative impression compared to those who did not abuse drugs, (M= 118 and M=105 respectively) additionally drug abusers showed significantly lower scores on the Social Responsibility scale (M=84 and M=99 respectively). Having attempted suicide was significantly associated with lower overall EQ-i (M=78.57) compared to participants that had not attempted suicide (M=92.72). Furthermore, participants that had been to prison before had higher scores on the Intrapersonal composite scale (M= 99) compared to participants that had not been in prison before (M= 88).

A one-way analysis of variance (ANOVA) showed a significant relationship between RoC\*RoI category and the EQ subscale Interpersonal Relationship;  $F(2, 3131)= 4.65$ ,  $p<.014$ . A Tukey Post-hoc analysis revealed that the low RoC\*RoI category mean for Interpersonal Relationship (M= 90.59) was significantly lower than the medium RoC\*RoI category (M= 114).

### 3.1.4 EQ-i score and Conviction history

Table 10 below shows the correlations between the two factor scores of conviction history and the EQ-i score.

**Table 10: Pearson (r) correlations for EQ composite scales and conviction histories.**

	Chronic Offending	Seriousness
TOTAL EQ	.099	.244*
INTRAPERSONAL	.181	.249*
INTERPERSONAL	-.150	.03
STRESS MANAGEMENT	.103	.263
ADAPTABILITY	.068	.255*
GENERAL MOOD	.091	.273*

\*\*p<.01, \*p<.05. (1-tail)

EQ-i scores show relationships to seriousness of offending but not chronicity. Higher EQ-i scores are related to higher seriousness of offending.

To gain a clearer relationship between type of EQ-i ability and criminal history, a factor analysis was performed to see if a different factor structure existed to that proposed by BarOn. An exploratory Factor Analysis (principal-component analysis) and rotation using the varimax with Kaiser normalization was performed. The scree plot suggested a two-factor solution which provided a good fit in terms of eigen value, and the amount of variance explained (61%). The loadings for the rotated component matrix are reported in Table 11, loadings of 0.7 or more are highlighted.

**Table 11: Rotated Component Matrix showing the factor loadings of the EQ-I subscales**

EQ-i subscales	Component	
	1	2
Self Regard	<b>.788</b>	-.301
Emotional Self Awareness	.696	.070
Assertiveness	<b>.763</b>	-.322
Independence	.551	-.428
Self Actualization	<b>.828</b>	-.034
Empathy	.582	<b>.703</b>
Social Responsibility	.343	<b>.796</b>
Interpersonal Relationship	<b>.679</b>	.471
Stress Tolerance	<b>.800</b>	-.170
Impulse Control	.445	-.040
Reality Testing	<b>.718</b>	-.201
Flexibility	<b>.764</b>	-.002
Problem Solving	<b>.748</b>	.075
Optimism	<b>.837</b>	.050
Happiness	<b>.806</b>	-.126

The factor loading relate to a two factor solution. The first component comprises more self-oriented emotional abilities, whereas the second factor comprises of more social or

interpersonal emotional abilities. I have labelled these components; 1) self EQ-i and 2) social EQ-i

The two factor structure of EQ-i, was used in a multiple regression analysis to see if EQ-i factors are predictive of criminal history variables; chronicity and seriousness. With chronicity as the dependent variable and the EQ-i factors as predictor variables, the overall model was significant ( $R = 0.34$ ,  $R^2 = 0.12$ ;  $F(2, 3.5) = 3.86$ ,  $p < .027$ ). The social factor of EQ-i was significant:  $\beta = -.253$ ;  $t = -2.0$ ,  $p < .048$ . This result suggests that as social EQ-i increases chronicity of offending decreases. Self-EQ-i approached significance:  $\beta = 0.24$ ,  $t = 1.91$ ,  $p < .061$ , suggesting that as Self EQ-i increases chronicity of offending also increases.

A multiple regression analysis with seriousness as the dependent variable, and EQ-i factors as the predictor variables, created an overall predictive model that approached significance ( $R = .30$ ,  $R^2 = .09$ ;  $F(2, 2.7) = 2.89$ ,  $p < .064$ ). Self- EQ-i was significant in predicting seriousness of offending with a  $\beta$  of 0.30;  $t = 2.37$ ,  $p < .021$ . This result suggests that higher Self-EQ-i abilities are associated with *higher* seriousness of offending. Seriousness of offending was inversely related to the Social EQ-i factor, but not significantly ( $\beta = -0.05$ ,  $t = -0.30$ ,  $p < 0.69$ ).

Overall these multiple regression analyses provide empirical evidence that the EQ-i score has some association with criminal history variables.

### 3.1.5 EQ-i scores and Offence Type

As mentioned in relation to Hypothesis one, there were significant differences between both violent and non-violent offenders' EQ-i scores and the normative sample.

Differences between offender types on EQ-i are examined below.

An independent two-tailed t-test was performed to see whether there was a significant difference in means between violent and non-violent female offender's scores on the EQ-i. A Levene's test for homogeneity of variance showed a non-significant result so a t-test

for independent means was applied. The mean total EQ-i score for violent offenders was quite similar to that of non-violent offenders (means 87.21 and 88.25 respectively) and the difference was not statistically significant ( $t(59)=0.195$ ). Considering the composite scales and subscales of the EQ-i, there were no significant differences between the two groups.

### 3.2 Callous-Unemotional Trait

The PCL: SV (Factor 1) score was used as a measure of CU traits, and is claimed to be a good predictor of violence (Wilson, 2003). Scores for each component range from 0-2 with total scores ranging from 0-12. Higher scores show signs of emotional dysfunction similar to that in people who may be assessed as having psychopathy. The mean PCL: SV F1 score was 6.32 (SD= 2.495). The highest score on the PCL: SV F1 was 11 and the lowest was 1. Using a cut-off score of 9, 16.7% of the sample have the CU trait. Table 12 below shows the percentage of respondents who scored 0, 1 or 2 to each Factor-1 component of the PCL:SV.

**Table 12: Percentage of offenders who scored 0, 1 or 2 for each component on the PCL:SV F1**

Component	Item scores			
	0	1	2	No data
Superficial	46.7	36.7	13.3	3.3
Grandiose	45.0	35.0	20.0	-
Deceitful	11.7	33.3	53.3	1.7
Lacks Remorse	6.7	50.0	43.3	-
Lacks Empathy	26.7	50.0	23.3	-
Doesn't Accept Responsibility	15.0	46.7	38.3	-

One of the core personality features associated with the CU trait is the propensity for instrumental (as opposed to relational) violence. Among the questions put to respondents when inquiring about their behavioural history was whether they had hurt others for personal gain. 23.3% said that they had, with 76.7% suggesting that they had not. The

mean PCL: SV F1 score for those who admitted to hurting for personal gain was 6.86 (SD 2.8), whereas that among the remainder was 6.2 (SD 2.2). This difference was not significant on a t-test ( $t(58) = -.916, p < 0.36$ ).

### 3.2.1 Indices of Validation for the PCL: SV Factor 1

#### *3.2.1.1 Estimates of Error*

For the current sample scores the standard error of the mean in the PCL:SV F1 scale is .305 points, this is very small and suggests that sample scores would not change much if the sample size changed.

#### *3.2.1.2 Reliability*

In the current study the Chronbach alpha was 0.71. For the individual components alpha ranged from 0.61-0.77. This indicates high internal consistency and suggests that the PCL:SV Factor 1 score is reliable in this offender population.

#### *3.2.1.3 Shape of the Distribution*

Skewness and kurtosis are two measures that show an accurate picture of the score distributions. A Skewness value tells about the symmetry of the distribution. Scores on the PCL: SV F1 scale had a skew score of -0.164. This is low, and suggests that scores are slightly more spread out at the low end than at the high end. The kurtosis score value was -0.445. This suggests that there was a small peak in the middle of the distribution. Small numbers on the kurtosis and skew suggests that this data has the shape of a normal distribution curve and therefore the data approximates a bell shaped distribution. A Kolmogorov-Smirnov statistic will be used to test the assumption of normality when testing the main hypotheses relating to PCL: SV F1 scores.

### 3.2.2 Callous-Unemotional Traits and Behavioural history.

Emotional abuse and physical abuse were both related to components of the CU trait. Emotional abuse was associated with two PCL: SV F1 components; Doesn't Accept Responsibility and Deceitfulness. High amounts of emotional abuse was related to higher

scores on the Deceitfulness component ( $r = .26, p < .027$ ) and lower scores on the Doesn't Accept Responsibility component ( $r = .22, p < .041$ ). High levels of physical abuse was related to higher signs of Superficial behaviours ( $r = .33, p < .009$ ). Suicide attempt was also significantly associated with CU traits with those who had attempted suicide showing higher PCL: SV F1 score ( $r = .278, p < .031$ ).

### 3.2.3 Callous-Unemotional Traits and Conviction History.

The relationship between CU traits and conviction history was analysed using Pearson correlations. Table 13 below shows the relationships between PCL: SV F1 component and criminal history factor scores.

**Table 13: Pearson (r) correlations for PCL: SV F1 components and criminal histories**

<b>Component</b>	<b>Chronicity</b>	<b>Seriousness</b>
PCL: SV F1 total score	.111	.040
Superficial	.055	.031
Grandiose	.059	-.029
Deceitful	.027	-.050
Lacks Remorse	.033	.126
Lacks Empathy	.105	.113
Doesn't Accept Responsibility	.105	-.095

$p < .01^{**}, p < .05^{*}$

No significant relationships emerged between PCL: SV F1 scores and criminal history factor scores. For the individual criminal history variables, number of serious convictions showed a positive relationship with total PCL: SV F1 score ( $r = .236, p < .025$ ) and age at first conviction showed a positive relationship with Deceitful ( $r = .257, p < .026$ ). This suggests that those offenders who re-offend seriously show more CU traits and offenders who are older at their first conviction are more Deceitful.

A multiple regression analysis was performed to see if CU traits predicted criminal history. With criminal history variables chronicity and seriousness as the dependent variables and PCL: SV F1 components as the predictor variables, the PCL: SV F1 components were not a significant predictor of chronicity of offending ( $R = .220$ ,  $R^2 = .065$ ;  $F(6, 2.6) = .414$ , n.s.) nor seriousness of offending ( $R = .256$ ,  $R^2 = .065$ ;  $F(6, 3.5) = .571$ , n.s.).

#### 3.2.4 Callous-Unemotional traits and Offence Type

Violent offender scores on the PCL: SV F1 ( $M = 6.32$ ,  $SD = 2.49$ ) did not differ significantly from non-violent offender scores ( $M = 6.38$ ,  $SD = 2.28$ ). The two offender types did differ significantly on two components of the PCL: SV F1; Grandiose (violent  $M = 0.5$ , non-violent  $M = 0.97$ ;  $t(58) = 2.44$ ,  $p < .018$ ) and Lacks Empathy; (violent  $M = 1.21$ , non-violent  $M = 0.75$ ,  $t(58) = -2.64$ ,  $p < .011$ ). Compared to non-violent offenders, violent offenders were less likely to be Grandiose and more likely to show a lacking of Empathy.

### *3.3 Emotional Literacy and Callous Unemotional Traits*

CU traits and EQ-i scores were assessed to see if there was a relation between callous-unemotional traits and the EQ-i. This involved an analysis of the relationship between EQ-i scores and the PCL: SV F1 components.

The Pearson product-moment correlation coefficient ( $r$ ) was used to explore the strength of relationships between the two variables and the direction of the relationship (positive or negative). Examination of a scatter-plot revealed that the relationship between total EQ-i scores and the PCL: SV scores was reasonably linear and there were no obvious outliers. Therefore the data does not violate the linearity assumption. A Kolmogorov-Smirnov test of normality for the PCL: SV F1 was not significant ( $p > 0.878$ ) which suggests that the scores on the PCL: SV have a normal distribution. The Independence of observation assumption was not violated as the observations that make up this data were not influenced by any other observation or measurement. The participants in this study were only in one group (offenders) so there was no overlap between participants.

There was no significant association between PCL: SV F1 score and EQ-i score ( $r = -.078$ , n.s.), nor between PCL: SV F1 and any of the EQ-i composite scales. For the EQ-i subscales, there were two medium significant correlations; Problem Solving ( $r = -.278$ ,  $p < .023$ ) and positive impression ( $r = -.315$ ,  $p < .007$ ). Participants with higher PCL: SV F1 scores showed significantly less Problem Solving ability and less likelihood of trying to present a positive impression.

Table 14 below shows the correlation matrix for PCL: SV F1 components and the EQ-i items.

**Table 14: Correlation Matrix of the Pearson correlations of PCL:SV F1 total and component scores and EQ-i subscale items.**

EQ-i Subscales	Total	Super	Grand	Deceit	LR	LE	DAR
Self Regard	-.074	.091	.007	-.243*	.065	.211	-.234*
Emotional Self Awareness	.003	.226*	.135	-.161	-.137	-.111	.011
Assertiveness	.055	.096	.219*	-.018	-.106	.080	-.110
Independence	-.031	-.014	.128	-.079	.079	.006	-.180
Self Actualization	-.032	.148	.110	-.078	-.205	.027	-.160
Empathy	-.122	.258*	.056	-.153	-.135	-.154	-.285*
Social Responsibility	.176	.261*	.155	-.184	-.033	-.200	-.047
Interpersonal Relationship	.461	.241*	.041	.039	-.135	-.197	-.103
Stress Tolerance	.419	.011	.051	-.143	-.055	-.074	-.132
Impulse Control	.200	.141	-.012	-.078	.118	-.152	.129
Reality Testing	-.026	.129	.227	-.364**	-.041	.099	-.148
Flexibility	-.108	.107	-.123	-.207	-.137	-.061	.037
Problem Solving	-.258*	-.012	-.114	-.161	-.254*	-.130	-.202
Optimism	-.001	.155	.088	-.120	-.107	.050	-.086
Happiness	-.030	.106	-.084	-.120	-.033	.065	-.036

$p < .01^{**}$ ,  $p < .05^{*}$ )

Interestingly, the expected relationship between the EQ-i subscale Empathy and the PCL: SV F1 component Lacks Empathy was not significant. Furthermore there was no significant relationship between the EQ-i subscale Social Responsibility and the PCL: SV F1 component Doesn't Accept Responsibility. However, when PCL: SV F1 score is split into high and low scores (<6 and >6), participants with high PCL: SV F1 scores, scored on average 10 points lower on the Empathy scale ( $M = 87$ ), this difference between PCL: SV group and Empathy scores almost reached significance with a t-value of  $t(58) = 1.9$ ,  $p < .059$ .

A multiple regression analysis was performed to see if CU traits could be predicted from the factor scores of EQ-i (self and social). EL showed no predictive relationship to CU traits ( $R = .085$ ,  $R^2 = .007$ ;  $F(6, 1.2) = .206$ , n.s.), this is consistent with the above correlation matrix which shows few relationships.

Finally, the callous-unemotional trait is supposedly associated with instrumental, as opposed to relational, violence, although this was questioned above where it was found that the PCL: SV F1 score was unrelated to whether offenders admitted hurting others for personal gain. Here we ask whether EQ-i score is related to hurting for personal gain. A two-tailed t-test was used to test if there were differences in mean EQ-i scores for those who admitted versus those who did not admit to, hurting for personal gain. No significant differences appeared for Total EQ-i, or any of the composite scales apart from Social Responsibility. Participants who answered yes on this measure scored low on Social Responsibility.

### 3.3.1 Emotional literacy and Callous-unemotional traits: differences between offender types.

It was shown above that PCL: SV F1 scores were not correlated with EQ-i scores. Because this result was surprising, further analyses were conducted to assess whether the expected relationship would be found among either the violent offender group or the non-violent offender group. Thus, correlations were calculated for PCL: SV F1 and EQ-i

scores separately for these two groups. Table 15 below shows the relations between EQ-i composite scales and total PCL: SV F1 scores for offender type.

**Table 15: Pearson correlations for EQ-i and PCL:SV F1 score for offenders**

EQ-i total and composite scale items	PCL:SV F1 score	
	Non-Violent	Violent
Total EQ-i score	.123	-.321**
Intrapersonal	.183	-.251
Interpersonal	.178	-.329*
Stress Management	.110	-.252
Adaptability	.003	-.350*
General Mood	.058	-.08

p<.01\*\*, p<.05\*

As the table above shows, there are many inverse relationships between Total and composite EQ-i scales and PCL: SV F1 score in violent offenders. This suggests that showing more CU traits is related to deficient EL skills in violent offenders.

Below, Table 16 and Table 17 show the correlations between PCL: SV F1 component scores and EQ-i scales for non-violent and violent offenders. This is similar to the above table but explores the measured components more clearly in offender type.

**Table 16: Pearson correlations for PCL: SV F1 composites and EQ-i scales for Non-violent offenders**

<b>PCL:SV composites</b>	<b>EQ-i composite scales</b>					
	<b>Total EQ-i</b>	<b>Intra</b>	<b>Inter</b>	<b>SM</b>	<b>Adapt</b>	<b>GM</b>
Superficial	0.32*	0.29	0.38*	0.30*	0.20	0.23
Grandiose	0.29	0.36*	0.21	0.23	0.20	0.18
Deceitful	-0.15	-0.15	0.03	-0.13	-0.25	-0.11
Lacks Remorse	-0.11	-0.12	-0.01	0.03	-0.17	-0.16
Lacks Empathy	-0.49	0.15	-0.17	-0.32*	-0.00	-0.01
Doesn't Accept Responsibility	0.08	-0.02	0.02	0.18	-0.39	0.00

p<.01\*\*, p<.05\*

**Table 17: Pearson correlations for EQ-i and PCL: SV F1 score for Violent offenders**

<b>PCL:SV composites</b>	<b>EQ-i composite scales</b>					
	<b>Total EQ-i</b>	<b>Intra</b>	<b>Inter</b>	<b>SM</b>	<b>Adapt</b>	<b>GM</b>
Superficial	-0.07	-0.08	0.97	-0.18	-0.78	0.06
Grandiose	-0.30	-0.19	-0.27	-0.20	-0.36*	-0.22
Deceitful	-0.29	-0.15	-0.31	-0.11	-0.37*	-0.13
Lacks Remorse	-0.11	-0.11	-0.19	0.01	-0.16	0.04
Lacks Empathy	-0.00	-0.00	0.12	-0.05	-0.04	0.12
Doesn't Accept Responsibility	-0.33*	-0.33*	-0.32*	-0.26	-0.24	-0.17

p<.01\*\*, p<.05\*

These tables show that CU traits in violent offenders generally have many inverse relationships, frequently significant, with EQ-i. In particular, the Doesn't Accept Responsibility component was quite consistently associated with low EQ-i in violent offenders. By contrast, the relations observed for non-violent offenders were sometimes in the opposite direction to that expected, sometimes significantly so.

### *3.4 Violent vs. Non-violent offenders*

#### 3.4.1 Offender Type and sample demographics

There were few significant differences between offender type and the demographic variables. Both offender types were highly represented in the marital status group single and showed high levels of not finishing school. Offender type did not vary much with ethnicity; numbers of Maori, Pakeha and Polynesian offenders were similar in both offender type groups. A significant relationship emerged between age and offender type, violent offenders were significantly younger than non-violent offenders (27.64 and 37.81 respectively,  $t(58) = 3.82, p < .000$ ). Non-violent offenders also had significantly more children ( $M = 1.64$ ) than violent offenders ( $M = 2.94$ );  $t(58) = 3.00, p < .004$ .

#### 3.4.2 Offence type and behaviour history

Both violent and non-violent offenders showed high drug use (violent 82.1%, non-violent 75%). Both offender types were equally likely to have attempted suicide. Non-violent offenders showed a higher prevalence of previous imprisonment (43.8% vs. violent 28.6%). Both offender types had experienced high amounts of abuse as children. The difference between RoC\*RoI scores for violent and non-violent offenders was not significant although, violent offenders were somewhat more likely to be on the high scale (46.4%) than non-violent offenders (32.3%).

#### 3.4.3 Offence type and criminal history

As expected, a t-test of independent means showed significant differences between violent and non-violent offenders in criminal history variables. The means between offender type and criminal histories differed significantly for most serious offence in conviction history ( $t(57) = -4.02, p < .000$ ), number of serious offences ( $t(35) = -2.940, p < .006$ ), total seriousness per annum ( $t(29) = -3.84, p < .001$ ) and age at first offence ( $t(47) = 2.17, p < .035$ ). Violent offenders offended more seriously, had higher numbers of serious offences, were expected to be imprisoned for longer over their offence career and were significantly younger than non-violent offenders at first conviction (18.2 versus 23

years respectively). Non-violent offenders showed more court appearances and a higher number of convictions, although not significantly.

### *3.5 Summary of Main Results*

Offender scores on the EQ-i were significantly lower than the published norms on all of the composite and subscale items. Additionally, The EQ-i showed a predictive relationship with factors of criminal history namely; the EQ-i factor score, Social EQ-i, significantly predicted decreased chronicity of offending and Self EQ-i factor significantly predicted increased seriousness of offending.

The PCL: SV F1 did not show any significant relationships with criminal history variables nor with the EQ-i composite scales. However, when the EQ-i items were factor analysed the relationship between CU traits and EQ-i score became clearer with a multiple regression analysis showing that CU traits are predictive of Social EQ-i score but not Self EQ-i score. The PCL: SV F1 components Lacks Empathy and Superficial were the most significant predictor variables of Self EQ-i.

Violent offenders showed many significant inverse relationships between PCL: SV F1 and EQ-i scores, thus violent offenders with high PCL: SV F1 scores show many deficits in EL. But the only significant difference between offender type on the PCL: SV F1 occurred in the components Lacks Empathy and Grandiose. As expected, violent offenders showed significantly more serious criminal offending history. Non-violent offenders showed more chronic criminal history.

### *3.6 Exploratory Analyses*

The relationship of EQ-i, PCL:SV F1 scores and demographic, behavioural history and criminal history had already been mentioned, however potentially interesting findings emerge once these relationships are analyzed comparing the associations between the

variables and also when comparing violent and non-violent offenders. Some of these findings are examined below.

### *Age*

Older offenders showed the expected effects of greater age; more previous imprisonment, less empathy, more likely married, and in addition they showed less violence and more formal education (i.e. finished school).

### *Ethnicity*

Although there was no significant differences in total EQ-i score and ethnic group, comparisons between violent and non-violent offenders showed some significant differences. Non-violent Maori were significantly lower on Impulse Control ( $M= 72.83$ ) compared to both Pakeha ( $M= 92.47$ ) and Polynesian ( $M=103.33$ ) non-violent offenders;  $F(3, 1295)= 4.54, p<.01$ . Although this is a significant result, the number of participants in this category for each ethnicity are getting small for example there are only 3 Pacific Islanders in the non-offender category as opposed to 12 Maori and 15 Pakeha.

### *Suicide Attempt*

As mentioned earlier, suicide attempt was strongly associated with lower EL. When offender type is analysed in relation to suicide attempt and EL, significant differences emerge. Although violent and non-violent offenders are equally likely to attempt suicide, violent offenders who have done so, show far more EL deficits than other violent offenders. Suicide attempt in violent offenders had strong inverse correlations for total EQ-i ( $r=-0.55, p<.001$ ), for the composite scales; Intrapersonal ( $r= -0.46, p<.007$ ), Interpersonal ( $r=-0.38, p<.022$ ), Adaptability ( $r=-0.52, p<.002$ ) and General Mood ( $r=-0.49, p<.004$ ) and a positive relationship with Negative Impression ( $r=0.42, p<.011$ ). The only scale non-violent offenders who attempted suicide differed on was Stress Tolerance, non-violent offenders who had attempted suicide had much lower stress tolerance score than non-violent offenders who had not attempted suicide ( $r= 0.812, p<.000$ ). This result shows that violent offenders who attempt suicide have far lower EL abilities than violent

offenders who do not attempt suicide. For non-violent offenders the differences in EL between those that had attempted suicide and those who had not were far fewer.

### *RoC\*RoI*

RoC\* RoI had a medium significant correlation with the PCL: SV F1 component, Lacks Remorse ( $r=.306$ ). The higher the chance of reconviction and re-imprisonment, the more likely someone will show a lack of remorse. Number of convictions and number of court appearances are also positively correlated with RoC\*RoI. As expected, the higher the RoC\*RoI score the higher the number of convictions and court appearances.

### *Criminal History*

The analysis of the relationship between criminal history and EQ-i showed that EQ-i is somewhat predictive of criminal history. However, other factors also explain criminal history. Of the variables analyzed in this study, criminal chronicity was best explained by, low education, being in prison previously, high drug abuse, hurting for personal gain and high RoC\*RoI score. These variables predicted 37% of variance ( $R= .612$ ,  $R^2=.375$ ,  $F(5, 21.7)=6.36$ ,  $p<.00$ ). The best predictor variables were hurt for personal gain ( $B=.602$ ,  $t=2.2.3$ ,  $p<.030$ ) and as expected, RoC\*RoI score ( $B=.324$ ,  $t=2.61$ ,  $p<.012$ ) and previous prison ( $B=.823$ ,  $t= 3.39$ ,  $p<.001$ ). Criminal seriousness was poorly explained by the predictor variables. Offenders who were violent, young, poorly educated, used instrumental aggression and showed higher EQ-i scores explained 42% of the variance in seriousness of offending ( $R= .655$ ,  $R^2= .429$ ;  $F(6, 24.8)= 6.51$ ,  $p<.000$ ). However only two variables *significantly* explained the variance in seriousness of offending, 1) being violent ( $B=.769$   $t(6)=3.17$ ,  $p<.003$ ) and 2) total EQ-i score ( $B=.013$ ,  $t(6)=2.59$ ,  $p<.012$ ).

## CHAPTER FOUR

### 4. Discussion

The purpose of this study was to investigate Emotional Literacy in New Zealand female offenders, asking specifically 1) whether they possess lower EL than a North American normative sample, 2) whether violent female offenders would show lower EL than non-violent female offenders, and 3) whether low EL was associated with Callous-Unemotional traits.

The hypothesis that female offenders would show lower EL compared to norms was supported. Offenders showed significantly lower EL scores on all scales than the normative sample. Violent offenders scored lower than non-violent offenders, but not significantly so and hence the secondary hypothesis that violent offenders would have lower EL than non-violent offenders was not supported. Lastly, the hypothesis that CU traits and EL would show a significant inverse relationship was only partially supported. EL was significantly inversely correlated to CU traits among female offenders who had convictions for violence, but not in non-violent offenders.

#### *4.1 Emotional Literacy in offenders*

The finding that EL is deficient in female offenders was expected on the basis of past research using the BarOn EQ-i that found low EL in antisocial and offender populations (Johnston, 2003; Moriarty et al., 2001, Smith, 2000, Cornell, 2003), and that EL is strongly associated with indices of well-being, neuroticism, and depression, (BarOn, 1997; Hemmati et al., 2004; Parker et al., 2001). The present research extends these findings to female offenders. However, it should be noted that not all of the past research has found this deficit (Hemmati et al., 2004; Knight, 2005 {Puglia, 2005}).

Interestingly, the largest EL deficits were in areas that are usually higher in females than in males. Based on the North American normative sample, females are more aware of

emotions, demonstrate more empathy, relate better interpersonally and are more socially responsible, than men. Men on the other hand have better self regard, are more self-reliant, cope better with stress, are more flexible, solve problems better and are more optimistic than women (BarOn, 2005). Accordingly, in community samples men often score higher on the intrapersonal scale whereas women score higher on interpersonal scales. In the present sample, differences from the norms were much smaller in the subscales in which men tend to score higher on than in those where females normally score higher. The largest differences relative to the normative sample were in the EL composite scales Interpersonal, Stress Management and Adaptability. Thus, female offenders are in some respects more similar to community males than to females. They were more likely to be impatient, lose control, and show an inability to resist impulses, be uncooperative, irresponsible and have difficulty recognising and defining problems and generating effective solutions. They also had trouble identifying and understanding their feelings and emotions, showed less sensitivity and appreciation to the feelings of others and showed less perceptive clarity.

#### 4.1.1 Emotional literacy and Criminal Offending

The difference between female offenders and the normative sample on EQ-i score suggests that crime and EL may be linked. Further tests of this general hypothesis can be achieved by examining the relationship between EL and offending within the female offender sample. If the two are linked, then low EL should be associated with greater seriousness and/or chronicity of offending.

Factor scores of criminal history variables; seriousness and chronicity showed a few significant associations with EL. Multiple regression analyses showed that EL abilities relating to self (e.g. self respect, understanding and expressing feelings, adapting emotions to different situations, resisting impulses, changing emotions in different situations, and showing a happy and optimistic demeanour) and EL abilities associated with social situations (e.g. showing sensitivity towards others, being cooperative and responsible in social groups and being able to give and receive affection) were predictive of chronicity of offending. High Social EQ-i abilities were significantly predictive of

*decreased* chronicity of offending. A further measure of criminal history, seriousness, was close to being significantly predicted by EL abilities. The component, Self EQ-i was significant in predicting an *increase* in seriousness of offending.

These findings propose that EQ-i does show some associations with criminal history. High scores on Social EQ-i were related to decreased chronicity and were almost significantly related to decreased seriousness. High scores on Self EQ-i were associated with high seriousness of offending and almost reached significant with increased chronicity.

The findings that High Social EQ-i is mostly associated with both decreased chronicity and seriousness were expected. Aspects of high Social EQ-i such as showing empathy, social responsibility and good interpersonal relationships would be expected to interfere with offending as these abilities denote showing a conscience towards others and the community. However, the significant relationship between Social EQ-i and criminal history existed for chronic offending rather than serious offending. It is suggestible that lower Social EQ-i abilities should be associated more with serious offending as this is associated with hurting others rather than yourself.

Self EQ-i is associated with nearly all of the EQ subscales and therefore represents a high proportion of the EL abilities. Showing high Self EQ-i was predictive of increased seriousness and was almost predictive of increased chronicity. This finding was opposite to the proposed hypothesis. Thus, the ability to be adaptable, happy, deal with different environmental demands and stressors is associated with more chronic and serious offending. The most significant relationship (high seriousness) may be explained by the suggestion that people who feel sure of themselves emotionally, and who are more aware of their own abilities to deal with problems, may feel they can handle the consequences of serious offending. Whereas, those with low Self –EQ-i may show poorer abilities in dealing with their emotions, stress and negative affectivity and thus, may not put themselves in as many situations that are highly stressful and involve harsh consequences.

The above findings show support for extending the concept of EL to female offenders. However, the relationships with these criminal history variables were not entirely expected. Previous studies have not examined the relationship between criminal history and EL in relation to offenders. Most studies that assess offenders and EL look at demographic information, type of aggression and compare violent and non-violent offenders rather than looking at the seriousness and chronicity of their offending histories. These studies tend to assume that violent or non-violent offenders would show enough differences in their type of offending to show differences in EL (Cornell, 2003; Knight, 2005), however this study provides support for analysis of criminal history when looking at EL rather than offender type. Because other studies have not analysed criminal history factors, it may explain why sometimes EL shows few associations with offending.

Knight (2005) found that violent and non-violent offenders did not differ on EL abilities, only those that had appearances in youth court showed low EL abilities. Her findings show support for the idea that chronic offending is related to low EL, which is consistent with the current findings; age of first conviction loaded on the chronic criminal history factor and was significantly associated with lower EQ-i score, specifically on the Self EQ-i scales.

The finding that aspects of Self EQ-i is associated with increased seriousness of offending is inconsistent with previous research that suggested low EL is associated with poor life outcomes, including criminal behaviour (BarOn, 1997). However, this result may help explain why some studies have found that showing high EL is associated with criminal offending. For example both Puglia and Moriarty (Puglia et al., 2005) found that offenders in general had low EL, but sex offenders unexpectedly showed higher EL abilities than other offenders. The abilities that sex offenders were found higher in these other studies were attention to feelings (Moriarty et al., 2001), and perception (Puglia et al., 2005). Thus, sex offenders were showing higher scores on abilities related to Self EQ-i, consistent with the current finding that suggests Self EQ-i is predictive of increased serious offending.

Additionally, factors thought to assess chronicity and seriousness may not be assessing these factors at all. Studies that find few relationships between EL and offending (Hemmati et al., 2004; Knight, 2005) may have used measures that were not specific enough to show differences in type of criminal history and therefore results may have been obscured by the differential impact of EL on criminal history. An example from the current study shows that, previous prison, although showing a strong relationship with chronicity, was not associated with Self EQ-i or Social EQ-i abilities. This advocates that previous prison is not a good measure of chronicity on its own. Further measures such as number of court appearances and age at first conviction are also important variables.

#### 4.1.2 Emotional literacy and Offender Type.

There was little support for the hypothesis the violent offenders would show different EL profiles from non-violent female offenders in the present study. The argument that violent offenders may show poorer emotional functioning stems from studies that find violent offenders are twice as likely to have been diagnosed as disordered (Blanchette, 1997), show more mental health issues, such as anxiety, depression, suicide attempts (Loucks & Zamble, 1994; Verona, Hicks, & Patrick, 2005), show more aggression (Leenaars, 2005; Marsee et al., 2005), difficulty problem solving, unrealistic goals, rigid thinking patterns and show a lack of empathy towards others compared to non-violent offenders (Blanchette, 1997). Blanchette (1997) analysed responses to the Offender Intake Assessment in Canada and found that female violent offenders showed less sensitivity to others, a disregard for others feelings and thoughts, and poor perceptual clarity of situations. Based on these results it was hypothesised that violent female offenders would show more EL deficits than non-violent offenders. This hypothesis was not supported, however, and Knight (2005), Cornell (Cornell, 2003) and Goldstein and Higgins (2001) also found no differences between violent and non-violent female offenders on EL abilities.

Knight and Cornell both assessed offender types in relation to formal EL tests (BarOn and MSCEIT, respectively) however; these studies focused on males and found no difference between the two offender types. It was proposed that in this study, and based

on the literature in the paragraph above that EL would be different in female offender type. Goldstein and Higgins did compare male and female offender types on emotional functioning. However, their study focused on cognitive and affective empathy rather than a global account of emotional functioning. Thus, it was decided in this study that violent female offenders could potentially differ from non-violent offenders on a global measure of emotional functioning.

It is possible that differences between the two offender types did not exist as the EQ-i model is not specific enough to measure the cognitive aspects of psychopathology or emotional functioning. EL as explained by BarOn is an array of personality traits and dispositions that influence success in life (success in life being conforming to societal rules in this sample). The EL construct may be too broad to capture the particular emotional deficits that are influential in determining offence type and therefore the EL models used with offender samples may not be sensitive enough to pick up specific differences between offender types such as psychopathology or anxiety and depression.

Based on the findings that EL is predictive of the criminal factors, seriousness and chronicity, classification of offenders into violent and non-violent type may not be the best way to assess differences in offending patterns. Based on the lack of distinction between offender type and emotional abilities discussed above, offender type does not appear to show enough of a distinction between criminal history variables and thus fails to show the expected relationship between EL and offending. Including the criminal history variables, seriousness and chronicity appears to be a more robust measure of the impact EL has on offending history than offender type.

Similar scores on EL for violent and non-violent offenders may indicate, in contrast to Blanchette (and others) conclusions, that violent and non-violent offenders have similar mental health related emotional problems. Scores on intrapersonal indices did not differ between offenders, nor did scores on the negative impression scale. Suicide attempt was also similarly prevalent for violent and non-violent offenders. These findings suggest that both types of offenders show similar emotional problems and that the explanation of

offenders' selection of different types of offending, lies elsewhere (perhaps drug/alcohol use).

Interestingly, Knight (2005) argued that lifestyle and offending patterns affect EL, rather than the other way around. Knight argued that non-violent offenders should have *lower* EL than violent offenders on the basis that non-violent offenders have a lifestyle of drugs, theft, burglaries and repeat imprisonment, which is different to that of violent offenders who may have only committed one act. Repeat offenders may expect to go to jail and have a bitter view of the corrections system, not be able to keep a job and have low expectations of themselves and therefore have lower EL. Knight's claim was assessed in the present study. Non-violent offenders with chronic offending histories and drug abuse problems were compared to other offenders on EL. Differences, although usually in the expected direction, were not significant.

#### 4.1.3 Emotional Literacy and Behaviour History

Emotional literacy was also examined in relation to other adverse life circumstances, including suicidality, abuse history, and drug abuse. Previous findings have related the EQ-i to the depression, hopelessness, suicide scale (DHS) in community samples (BarOn, 1997, Louth, 1998). The DHS scale was inversely associated with EQ-i, suggesting that low EL is related to increased scores on the DHS scale. Consistently, Parker, Taylor and Bagby (Parker et al., 2001) believe that higher EL may be a protective factor against mental and physical illness. A finding with a male offender sample has also shown that the EQ-i is inversely correlated to signs of psychopathology, depression and hopelessness (Hemmati et al., 2004) Suicide attempt is a strong indicator of psychopathology and this current sample extends the findings of suicidality being associated with low EL to a female offender population. Female offenders in the present sample that had attempted suicide had significantly lower EQ-i scores compared to those that had not, scoring 14 points lower on average. The largest significant relationship was on the general mood scale ( $r=-.317$ ). This was expected as the EQ-i captures the ability to deal effectively with daily life, and suggests that information about EL may be useful in identifying those offenders who are at risk among the female prisoner populations.

With regard to abuse history, Zaplin (1998) noted that there is no definite causal link between child abuse and female crime, even though the majority of studies show abuse being statistically associated with crime. Physically- and emotionally abused children exhibit many internalizing and externalizing disorders such as conduct problems, social withdrawal, aggression, anxiety and depression (Ammerman, Cassisi, Hersen, & Van Hasselt, 1986) and in one study the strongest predictor for greater involvement in violent activities was whether the inmate reported having been physically abused in childhood (Pollock, Mullings, & Crouch, 2006). Therefore, abuse does seem related to poorer life outcomes. In this study a history of physical abuse was *positively* related to total EQ-i, and almost all of the EQ-i subscales, although only in non-violent offenders. This suggests that more physical abuse was related to higher EQ-i. This is somewhat surprising as in previous studies physical abuse is associated with less EL. However, sample numbers associated with being non-violent and experiencing high physical abuse were quite small (N= 16) and therefore these results would have to be replicated with a larger sample. An association was also expected between emotional abuse and EQ-i because emotional abuse was associated with physical abuse. Comparable to Smith (2000) who found that emotional abuse was not related to any EQ-i scales, no association between emotional abuse and EL was found for violent or non-violent offenders in the present sample. Sexual abuse was not specifically assessed in the present study, and Smith found it to be related to the intrapersonal scale of the EQ-i.

Studies of substance abuse and EL have discovered that EL is overall negatively correlated with use of tobacco, alcohol and other drugs (Trinidad & Johnson, 2002). Differences in total EL between drug abusers and non-drug abusers were not significant in the present study, although those that did abuse drugs and alcohol (78%) showed significantly higher negative self impressions, and scored lower on social responsibility scale. however, female offenders often show very high levels of drug and alcohol abuse and because of these high numbers differences may have been obscured

Finally, it may be wondered whether the rather weak relationships between EL and other factors arises because of deficiencies in measurement. Twenty percent of participants scored high on the inconsistency index. High inconsistent score results are normally declared invalid (BarOn, 1997), but were in the present study included regardless. Following advice from Multi-health systems (the scorer of the BarOn EQ-i) invalid respondents were removed from the analyses to see if the scores were changing the results significantly. Based on the main analyses, invalid respondent's scores did not significantly influence any of the main results bar one. EL in offenders was still significantly lower than the norms, there was no significant difference in EL means between offender type, and CU traits were not significantly associated with EL composite scales. The only change resulting from the removal of invalid respondents was that EL was more predictive of the criminal history variable seriousness. The model, which included Self EQ-i and Social EQ-i, was significant in predicting seriousness ( $R=0.37$ ,  $R^2=0.14$ ,  $F(2, 3.53)=3.61$ ,  $p<0.03$ ; previously this result had only approached significance). Therefore removing invalid respondents only made a significant change in this one aspect of the analyses.

#### *4.2 Callous-Unemotional traits*

Studies consistently find that those with CU traits show low levels of fearfulness and high levels of aggression (Frick & Morris, 2004, Pardini, 2006, Kimonis, 2003, Loney, 2003, Butler, 2004). The deficient affective component of the CU trait is thought to be the core aspect of the psychopathic personality (Hare, 1998, Cleckley, 1964) and is covered in the Factor 1 affective/interpersonal components. In this sample 16% of participants were assessed as having the CU trait based on a cut off score of 9 on the Factor 1 score of the PCL: SV. Based on the percentage of scores coded for each item of the PCL: SV F1, female offenders showed more examples of CU traits reflecting Deceitfulness, Lacking Remorse and Doesn't Accept Responsibility, and fewer examples of the CU traits reflecting Grandiosity, Superficiality and Lacking Empathy.

There is a very strong link between the psychopathic personality and violence and numerous studies have commented on the strong association between the two, (Weizmann-Henelius, Viemerö, & Eronen, 2004, Cornell, 1996, Hare, 1991, Wilson, 2003, Burke, 2007). Additionally, the psychopathy measure is a core factor in the Violence Risk Appraisal Guide (VRAG) which assesses risk of violence. Based on the strong association between psychopathy and violence it was expected that offenders in this sample would show a relationship between high CU traits and indices of violence associated with the CU trait, instrumental aggression (measured by “hurting for personal gain”). However, this study showed no support for the link between instrumental violence and CU traits. It is possible that this finding was related to female offenders specifically. Adolescents with high CU show many forms of both violent and non-violent aggression (Frick et al., 2005) but females with high CU traits are more likely to show relational aggression rather than overt instrumental aggression (Butler, 2004; Marsee, 2005). Because of the use of relational aggression, in females with CU traits it is feasible that there are fewer associations between CU traits and instrumental aggression in this sample.

#### 4.2.1 Callous-unemotional traits and Criminal History

In studies of male offenders there are consistent findings that the PCL: SV predicts criminal history (Barry et al., 2000; Essau et al., 2006). Therefore it was assumed that the PCL: SV measure would do the same for women. It has been suggested that CU traits in females are associated with serious chronic re-offending and a strong predictor of future antisocial behaviour, more so than conduct problems (Dadds et al., 2005; Frick, Cornell, Barry et al., 2003; Frick et al., 2005; Marsee et al., 2005). However, other research has suggested that the PCL: SV is not such a good predictor of criminality in females as it is in males (Salekin et al., 1998; Warren et al., 2005). The PCL: SV has shown mixed results as a good indicator of criminal offending. A recent study of non-psychotic female inmates found that the PCL-R was able to identify a small group of offenders who met the criteria for psychopathy and who also had the predicted high recidivism risk associated with the personality trait (Vitale et al., 2002). However, it has been asserted that “the risk principle” which asserts that risk can be predicted, is less viable when applied to women (Blanchette & Motiuk, 1995) thus the PCL: SV which is often a strong

predictor measure of violence and criminal offending, may not be as predictive of these factors in women.

These claims were assessed in the current sample by examining the relationships between criminal history and PCL: SV F1. In accordance with Salekin and Warren, the PCL: SV F1 components did not predict seriousness or chronicity of criminal history in these female offenders. Furthermore, no correlations emerged between any of the PCL: SV F1 components and criminal history variables.

The empirical support for the PCL-R, and Factor 1 in particular, as a predictor of offending may be weaker for females than for males. The PCL: SV has been researched thoroughly within male populations but very few studies focus on females. The male research highlights the strong validity and reliability of the two-factor structure within the population. Research on the construct validity of the PCL:SV and PCL-R in female samples have found that the PCL-R used for female offenders is robust with similar means and base rates of psychopathy in female offenders as male offenders (Hare, 1991; Louth, Hare, & Linden, 1998; Rutherford, Cacciola, Alterman, & McKay, 1996; Warren et al., 2003) and good consistency, reliability and item total correlations which were as high as in male samples. (Vitale et al., 2002). However other research has questioned the validity, reliability and factor structure of the PCL-R measure in females with findings suggestive of lower means and lower prevalence of psychopathy amongst female offenders than male offenders (Loucks & Zamble, 1999; Salekin, Rogers, & Sewell, 1997; Vitale et al., 2002). For example, it has been found that the PCL-R in women is not significantly related to recidivism in female offenders and only moderately predicts violent recidivism (Salekin et al., 1998) as opposed to males with whom the PCL is highly predictive of violent recidivism (Hare, 1991; Wilson, 2003).

In addition, gender differences have been found in the factor structure of psychopathy and thus females may fit a different two factor model than males (Salekin et al., 1997 {Grann, 2000). For female offenders, the two factors of PCL-R broadly resemble Hare et al.'s (1990) description; F1 being composed of interpersonal traits, and F2, being

composed of socially deviant behaviours. However, the individual items of the PCL-R appear to load differentially to male accounts of psychopathy within these two dimensions. Males have been distinguished from women by showing more of the F1 traits than females, specifically on the callous/lack of empathy scale of the PCL-R and juvenile delinquency (Grann, 2000).

There is also suggestion that there are gender biases within the PCL. It has been suggested by Grann (2000) that the reasons there are gender differences between male and females on the PCL-R could be attributed to gender biases in the questions, information in the files and the comorbidity in women. Women who show psychopathic tendencies also show high comorbidity with depression, anxiety and histrionic disorders (Salekin et al., 1998). Therefore a measure of psychopathy for women should account for gender specific socialization, offending, attitudes and mental health issues.

Overall there is contention whether the PCL measures are accurately portraying psychopathy in women. The biggest disagreement is on the factor structure of the PCL and therefore it may be possible that CU traits, juvenile history and a lack of empathy are typical attributes for male psychopathy whereas the female psychopathy is not so callous, less delinquent but more sexually promiscuous than her male counterpart. Consequently F1 components of the PCL: SV may not be accurately assessing CU traits in women.

While studying the factor structure of the PCL: SV in women falls outside the scope of this current project it is interesting to find that none of the items on the F1 scale explained significant variance on the factors of criminal history; seriousness and chronicity. It appears that F1 in the current study does not contribute to any of the criminal history variables that are usually associated with the psychopathy construct. Whether this is because of a female sample or because of flaws in the conceptualization of the measure is debatable.

It is conceivable that because psychopathy is a predictor of violence that violent offenders show more associations with CU traits. The next section examines the potential differences of offender type on CU traits.

#### 4.2.2 Callous-Unemotional Traits and Offender Type

There were few differences between violent and non-violent offenders on F1 of the PCL: SV. The only significant finding in this study related to CU trait differences between offender type on the components, Grandiose and Lacks Empathy. Violent offenders showed a significant Lack of Empathy and non-violent offenders showed more Grandiose characteristics. Consistent with the current finding that violent offenders showed a lack of Empathy, Frick (Frick & Morris, 2004) found that children who lack empathy and feelings guilt and remorse following deviant transgressions seem to show a severe form of violent behaviour over time.

Once again, the PCL: SV has failed to show a predictive relationship with violence as assessed by both violent offenders' scores on the PCL: SV F1 and the instrumental violence indices (hurt for personal gain).

It was thought that the relationship between CU traits and criminal history may be clearer within offender type however, the only significant relationship that existed showed that non-violent offenders who were high on Deceitful, showed significantly less chronic offending history.

Overall findings suggest that F1 of the PCL is not discriminating instrumental violence, offender type or criminal history. These findings lead to examining the validity of the F1 component of PCL: SV in predicting criminal offending and violence in female offenders.

Salekin (1998) found from a factor analysis that Grandiose, Doesn't Accept Responsibility and Lacks Remorse do not fit into an affective description for women but that F1 should consist of the items Lack of Empathy/guilt, Deceitfulness, Proneness to Boredom and Sensation Seeking. And Rutherford et al.(1996) found three items on the

PCL-R were weakly related to total psychopathy scores for women; Juvenile Delinquency, Grandiosity, and Doesn't Accept Responsibility for one's own actions accounted for only 4% of the variance in total PCL-R scores. These researchers are suggesting that the components associated with F1 of the PCL are not predictive of psychopathy in women.

In contrast to Salekin, Weizmann (2004) found that Shallow Affect, Lack of Remorse, Conning/Manipulative, and Lack of Realistic Goals are important for female psychopathy as well as Callous/Lack of Empathy, Impulsivity and Doesn't Accept Responsibility. This view suggests that all of the items assessed by F1 except Superficial are important to assessing psychopathy in women. Additionally, it has been suggested that Cooke and Michie's three factor model (Cooke et al., 1999) is a more robust measure of psychopathy in women with the most prominent components being Lack of Emotional Range, Callousness, Lack of Remorse and Empathy.

Furthermore, it has been suggested that female offender criminal history may show less association with CU traits than male offenders' criminal history as offences recorded or existing item descriptions may not be good determinants for the type of aggression shown by violent women (Kimonis, Frick, Fazekas et al., 2006). As mentioned previously, females use much higher rates of relational rather than instrumental aggression and thus CU traits which are associated with instrumental aggression may not be sensitive to relational aggression.

Loucks and Zamble, (2001) compared male and female offenders and found that in contrast to male offenders F1 scores were as closely related to criminal behaviour in female offenders as F2 scores were. This was unsupported in the current study with the findings that total CU traits were not related to seriousness nor chronicity criminal history factors for violent or non-violent offenders. It is possible that the small sample size in this study (N=60) was not large enough to show these differences reported by Loucks who used a sample of 100. Alternatively, the lack of expected results may result from cultural differences occurring between Canadian and New Zealand female offenders.

In studies on the utility of CU traits to discriminate violent offending, Warren (2005) discovered that the F1 of the PCL-R did not differ at all between those that were murderers, violent offenders or those that had committed non-violent crimes. Instead, Factor 2 was a better predictor on all of these. Warren (Warren et al., 2005) suggested that the explanation that the PCL-R was not predicting violent offending was because female offenders who showed psychopathy were involved in chronic patterns of non-violent criminality. This was not supported in the current study as non-violent offenders showed no association with chronicity of offending. Salekin (1998) goes as far as saying that both F1 and F2 are poor at differentiating violence. Salekin found that in a female offender sample the PCL-R did not correlate positively with manipulation, remorse, danger, non-compliance, verbal aggression or violence. These studies suggest that the affective traits of the PCL-R are not assessing violent offending in women and F2 may show more promise at assessing violence in female offenders (Warren et al., 2005). F2 contains items that are general risk factors for violence whereas F1 contains affective and interpersonal components.

#### 4.2.3 Callous-unemotional trait and Sample Demographics.

Significant relationships between different aspects of lives and characteristics of CU traits were found. Being older was related with showing more empathy. It is suggestible that as women age and start families their empathetic abilities improve as they have more responsibilities toward their families. These familial bonds have been suggested as a protective factor for women (Moth & Hudson, 1999). Another factor associated with CU traits, was that higher educated women showed more deceitfulness and more remorsefulness. The women that showed high deceitfulness were often convicted of fraud and therefore it is possible that these women were using their education to deceive others. Additionally, more highly educated women may have shown high levels of remorse because they had lost more in terms of their careers and livelihood, whereas those that were less highly educated may have had less to lose and therefore felt less remorseful.

#### 4.2.4 Callous-unemotional traits and Behaviour History

The research on childhood abuse is full of observations showing that females who are abused as children face more problems such as depression, low self-esteem, fear, anxiety and hostility (Finkelhor & Browne, 1985). Childhood abuse can alter cognitive and emotional orientation and create trauma by distorting affective capabilities and thus leads to behavioural problems (Finkelhor & Browne, 1985). Childhood abuse has been known to predict adult psychopathy in a prospective study of boys and girls (Weiler & Widom, 1996) and in a study of parolees (Smith, 2000) but CU traits in the current sample showed few correlations with abuse. A high level of both physical and emotional abuse was associated with higher scores on the superficial component. One reason for this is that offenders who have been abused may create a façade to hide their feelings about their childhood experiences and in doing so, they hide their true feelings and thus stories may seem glib, or inconsistencies may occur in speech and affect. Participants that were emotionally abused were also more likely to accept responsibility for their actions. Overall, this study shows limited support for childhood abuse being predictive of future CU traits.

There are surprisingly few studies that look at the possible association between suicide risk in female offenders and CU traits. Cleckley (1964) maintained that people with psychopathy were relatively immune to suicide and although suicide attempt would appear related to internalizing problems, it seems from the research with offenders that reactive aggressiveness, persistent criminality and antisocial personality disorder may be triggers for suicidal behaviour (Verona, Patrick, & Joiner, 2001). In a study of male inmates, suicide history was significantly related to PCL-R F2 but was unrelated to F1. Furthermore, a study of female offenders found that suicide attempt was inversely associated with F1 (Verona et al., 2005) In striking contrast to the literature suggesting that F1 is not related to suicide attempt, this study found that attempting suicide was associated with increased CU traits, especially in the Grandiose and Lacks Remorse components in violent offenders.

Only grandiose characteristics were associated with physically hurting someone for personal gain. Some researchers related the grandiose feature to cold-blooded, predatory and serious crime (Hare, 1998). It has also been said that grandiose behaviours helps to justify the use of violence (Calvete, 2008). This claim is supported in this study as although violent offenders showed few grandiose characteristics, grandiosity was significantly associated to instrumental violence only in violent offenders.

#### *4.3 Emotional Literacy and Callous-Unemotional Traits.*

It has been proposed that the presence of CU traits among female adolescents may be a marker for gender non-normative elevations in antisocial behaviours that is reminiscent of the male psychopathy construct (Butler, 2004) furthermore, CU traits are associated with specific deficits in the perception and attention to emotions and empathy and understanding of emotion areas of EL (Barry et al., 2000). It has been suggested that male deficiencies in interpersonal skills, when compared to women, may explain why psychopathy is diagnosed much more frequently in men than in women (BarOn, 2005). In the present sample, female offenders showed interpersonal skills similar to the normed population of males and had a base rate of high CU traits of 16%. However this female offender sample did not show the expected association between high CU and EL deficits. Yet, there were some specific correlations. Namely, high CU traits were associated with poor problem solving abilities. Consistent with this finding, psychopathy (F1 and F2) in female offenders has been found to be associated with dysfunctional concept formation, difficulty in transferring concepts into action and trouble initiating problem-solving behaviour (Kalinian & Wisniewski, 2006).

One study has found support for the association between EL and psychopathy. Malterer (2008) found that only some deficits in EL were associated with the PCL-R in offenders. Namely, participants with high scores on the PCL-R F1 reported less inclination to pay attention to their emotions. The finding that people with high scores of F1 attended less to their emotions provides support for the proposal that F1 is associated with a core emotional deficit that underlies the insensitivity to and lack of concern with emotional

information that characterizes people with psychopathy (Patrick et al., 1994) and is consistent with the suggestion that emotion deficits in those with psychopathy reflect a failure to allocate attention to emotion cues (Blair, 1999; Blair et al., 1995; Hare, 1998).

Consistent with the above study which found few significant relations between EL and psychopathy, this current research also found few significant relations. However, associations between the some of the components of the PCL: SV F1 and aspects of EL were significant.

Adaptability and Intrapersonal EL skills were deficient in female offenders showing deceitful behaviours. The poor reality testing shown in those with deceitful behaviours may lead to a poor understanding of situations and a disregard for others which in turn, creates rationalization claims such as “they can afford it”, “they deserved it” etc. Many offenders who scored high on Deceitful were convicted of fraud. It is known that the rationalization of fraudsters reduces the offender’s inhibition (Duffield & Grabosky, 2001). The rationalization of the activity and the extenuating circumstances removes the perception of criminality from the act from the offenders’ point of view.

Lacking Remorse was associated with an inability to identify and define problems and generate and implement effective solutions. Often offenders attribute hostility when there is none (Bettencourt & Miller, 1996), and thus, their problem solving may involve antisocial choices which leads to a lack of remorse because they may feel the person deserved it (Crick & Dodge, 1996).

On some specific items of the EQ-i offenders showed positive relationships with Grandiose and Superficial components of the PCL: SV F1. Offenders that could have satisfying relationships with others, respect themselves, show high self esteem, understand and appreciate the thoughts and feelings of others and understand their own emotions and feelings showed significantly higher superficiality scores. This is contrary to expectation as relationships that female offenders do have are often characterised by unhealthy, co-dependent attitudes, rather than superficial characteristics (Steffensmeier &

Allan, 1996). Offenders that showed many grandiose characteristics were able to assert themselves constructively without being abusive or aggressive and were better able to assess the correspondence between what is experienced and what objectively exists ( i.e. they didn't day dream). One reason for these unexpected results could be that Grandiose and Superficial items are not very good predictors of the affective/interpersonal construct of psychopathy (Grann, 2000; Salekin et al., 1997) and the participants in this sample showed few grandiose and superficial characteristics compared to other items on the PCL:SV F1. Therefore these results will need to be replicated before being taken seriously.

Based on poor scores on the empathy scale it was expected that lacks empathy would be inversely correlated with empathy. The items included in Lacks Empathy such as being cold and callous, not caring about the feelings of others, and showing inconsistent and shallow emotions are not that different to statements on the EQ-i e.g. "I am unable to understand the way other people feel", "I care what happens to other people", "even when upset I'm aware of what's happening to me" and, "its hard for me to see people suffer". It has been suggested that female offender's exposure to repeated non-empathic relationships may create highly empathic attitudes towards others and a lack of empathy towards themselves (Mullins-Nelson et al., 2006). Consistent with this claim, scores on the Lacks Empathy item (mostly 1's) of the PCL: SV F1 suggest ambivalent characteristics in female offenders. This may mean that women show inconsistent empathy characteristics. Furthermore, it is possible that female offenders show offence specific empathy deficits. If showing empathy is incongruent with their goals they may choose to attend to other aspects of the situation (less emotional eliciting stimuli). In this way they are less likely to feel guilt and achieve their criminally minded goals.

Because of the few associations found between CU traits and EL, it is possible that these dimensions only associate on measures that are found to correlate to both constructs. For example, the PCL-R has been shown to be related to a number of personality disorders associated with poor emotional functioning. The PCL-R total score, has shown correlations with symptoms of the cluster B personality disorders (Antisocial, Borderline,

Histrionic, and Narcissistic Personality Disorders (Weizmann-Henelius et al., 2004) avoidance and obsessive compulsive disorders (Warren et al., 2003), dominance, mania, aggression (Salekin et al., 1997), negative affectivity, anxiety (Vitale et al., 2002) and inversely correlations with warmth, empathy and interpersonal sensitivity (Salekin et al., 1997). Conversely, the findings from studies on psychopathology and EL (BarOn, 2005; Palmer, Stough, & Donaldson, 2002; Parker et al., 2001; Schutte et al., 2001; Taylor, 2001) suggest that deficiencies in some of the most powerful EL skills that impact psychological health may lead to anxiety, depression and problems related to reality testing (an inability to adequately verify feelings and thinking). The EQ-i has been shown to have strong inverse correlations with measures of psychopathology, depression and hopelessness (Hemmati et al., 2004; Moriarty et al., 2001). Similar correlations were found by Bar-On (1997) between total EQ-i and negative affect.

Based on the similar correlations between EL and psychopathology on the one hand, and PCL: SV and psychopathology on the other, it seems that EL and PCL: SV are likely to correlate only on items that have shown to predict some of these personality disorders and measures of well being ie, negative affectivity, depression and empathy.

However, the EQ-i model is not explicit enough to measure these factors specifically as it is a broad measure of emotional functioning. The EQ-i only shows associations with these measures of well being on some items rather than showing predictive power for total EQ-i score. Thus, it is difficult to assess these specific associations that seem similar to both psychopathy and EL.

One area that can be assessed is negative affectivity. Women with high levels of CU traits have shown associations with negative affectivity (Vitale et al., 2002) (which is quite different to male findings (Blair et al., 1995), and EL is also inversely associated with negative affectivity (Louth et al., 1998). Negative affectivity reflects the tendency to experience emotional distress and the inability to cope effectively with stress. People that show high negative affectivity tend to be tense, anxious, insecure, suspecting, jealous, emotionally unstable, hostile and vulnerable (Wysocki, 2005). In women with CU traits

negative affectivity suggests signs of depression (Verona et al., 2005). In this study attempting suicide was significantly related to poorer outcomes on intrapersonal, stress management, adaptability and general mood composite scales of EQ-i and high levels of negative impression (portraying themselves in a negative way, consistent with low self esteem) and therefore was a suicide was a sign of poor emotional abilities and especially poor mood. Suicide attempt was also strongly correlated to showing high CU. These findings imply that negative affect as assessed by aspects of the EQ-i may be related to the affective component of the PCL: SV, indeed EL scores were significantly poorer for those that had attempted suicide and had high CU traits. Once offence type and CU traits are controlled for suicide attempt is still significantly inversely related to EL. This suggests that negative affectivity and suicidal ideation are significant predictors of poor EL skills regardless of being violent or showing CU traits.

The PCL: SV is strongly correlated with characteristics of antisocial personality disorder (ASPD) and ASPD is needed for a psychopathic personality diagnosis. Items on the EQ-i have shown inverse correlations with measures of the antisocial personality disorder specifically, empathy and social responsibility (BarOn, 1997). Based on this, it is conceivable that components of the PCL: SV and items of the EQ-i will correlate. However, using Factor 1 only, the present results showed no significant associations between items of the EQ-i that are supposedly associated with ASPD (empathy and social responsibility). This suggests that items of the EQ-i known to correlate with antisocial personality disorder are not strong enough in this sample to show the expected association with PCL: SV. Alternatively associations between APSD and psychopathy are completely accounted for by Factor 2 rather than Factor 1 of the PCL: SV.

#### 4.3.1 Emotional Literacy and Callous-Unemotional Traits: Offender Type

Violent, instrumental aggression without fear of punishment can occur from those who exhibit low fearfulness and low responding to negative consequences; the traits associated with CU (Kimonis, 2003; Kimonis, Frick, Boris et al., 2006; Pardini et al., 2003). Based on the theory and findings with those with CU traits it was expected that violent offenders would show more CU traits and more deficits in EL abilities. This

hypothesis was partially supported. Although violent and non-violent offenders did not differ significantly in showing high CU traits, there were significant associations with lower EL and being a violent offender with high CU traits.

Violent offenders showed a strong inverse association between CU traits and EL score. For violent offenders, low scores on the interpersonal scale and adaptability scale was significantly related to high scores on F1 of the PCL: SV. The interpersonal scale has items that most resemble the interpersonal/affective scale on the PCL: SV and accordingly correlate the highest with CU traits. Violent offenders that showed high CU traits scored lower on aspects measuring responsibility, dependability, social skills, relating to others, understanding problems and solutions and being a realist. The largest deficits were in empathy and problem solving skills. It has been said that the lack of empathy and feelings of guilt and remorse toward deviant transgressions characterises violent offenders with CU traits (Frick et al., 2005). Further analyses of these findings suggest that most of the EL items that were significantly related to CU traits were mostly related to the Doesn't Accept Responsibility component. Subsequently, poor EL abilities are highly associated with not accepting responsibility, in violent offenders.

Overall this study found few relationships between EL score and CU traits. The expected inverse relationships that did occur were strongest for violent offenders, however not as strong as the theory and research would predict.

The previously mentioned caveats for the measurement of female psychopathy namely; poor consistency in the findings related to the prevalence of psychopathy in women, prediction of violent offending and the conceptualization of the factor structure in female offenders, raises questions on the use of F1 as a affective/interpersonal measure in women and as good measure of CU traits in women. Furthermore, the broad conceptualization of the EQ-i may not have been specific enough to capture associations with CU traits.

It is possible that the EQ-i and PCL: SV F1 did not correlate as highly as expected as they are measuring different constructs. The PCL: SV F1 measures the affective and interpersonal aspects of psychopathy whereas the EQ-i is much broader and covers a wider variety of personality aspects which include Self EQ-i and social EQ-i rather than a specific measure of interpersonal factors. With a broad selection of emotional literacy items the EQ-i may not have been able to discriminate specific items associated with the affective component of the psychopathic personality.

It is also possible that differences in EL are not discriminating deficits in F1 as deficits in F1 are situation specific. For example, it is possible that the CU trait reflects a lack of concern about emotions rather than an inability to process them. In this study CU traits as measured by F1 of the PCL: SV failed to find the expected associations with many EL aspects for example, lacks empathy was not correlated with empathy and doesn't accept responsibility was not correlated with social responsibility. People with high CU traits may be able to process, understand and use emotional processes when they choose but when it interferes with their goals then they are able to switch off. These attitudes and goal clarification processes towards offending may show how CU traits can be expressed differently depending on the situation. For example, situation specific emotional deficiencies are evident in studies with sex offenders that show that their emotional processing deficits are situation specific (Hudson et al., 1993; Moriarty et al., 2001; Puglia et al., 2005).

A more in-depth look at the type of aggression used while offending and who the offending was against may bring to light the possible differences in violent and non-violent offenders and their CU traits. Williamson, Hare and Wong (Williamson, Hare, & Wong, 1987) demonstrated that violent offenders with psychopathy often committed violent crimes under extreme emotional arousal and that victims were often family and friends whereas violent psychopathic offenders often offended against strangers with much less emotional involvement. Distinctions between the nature and circumstances of the offences and victim association to the offender should be considered for a more precise offender categorization.

Therefore the association between EL and CU may not be as useful for developing an understanding of crime related affective deficits because of the breadth of the items. It may be better to focus on those specific affective deficits that have shown an association i.e. high CU traits being related to problem solving abilities in female offenders and specifically, adaptability and interpersonal deficits in violent offenders.

#### *4.4 Exploratory Results*

##### *Risk of Recidivism*

Those that were more likely to be a recidivist within 5 years (high RoC\*RoI) were young Maori female offenders. Wilson (2003) also found the same phenomenon in male offenders. This may be related to the significantly lower scores for impulse control found in the EL results of Maori.

##### *Violent offending*

Age seems to be an important factor for violent offending (Frick, Cornell, Bodin et al., 2003; Moffitt, 1993). Violent offenders were significantly younger in this sample, with an average age of first conviction at 18. Other factors that differentiated violent offender were that they had less children, were less educated, showed low grandiose characteristics and little empathy. When age was controlled, the two variables that remained significant were Grandiose and Lacks Empathy. This suggests that Grandiose and Lacks Empathy components are uniquely related to offence status regardless of age.

The current research shows some support for the delayed onset of offending in female offending with the average age of convictions for female offenders being 21. Violent female offenders in this sample showed many similarities to life-course persistent males in that they were younger at first offence, showed serious offending and their low EL abilities were uniquely associated with high CU traits. Furthermore, seriousness of offending was significantly predicted by being a violent offender and low EL.

Additionally, the association between violent offenders and Social EQ-i approached significance; violent offenders showed lower levels of Social EQ-i abilities ( $r = -.195$ ,  $p < 0.06$ ). This suggests that violent offenders were showing more deficits than non-violent offenders in abilities relating to getting along with others and showing empathy.

#### *4.5 CONCLUSIONS*

Overall, this study found mixed support for the different theories and findings from literature of emotional abilities in female offenders. Consistent with the literature that finds poorer emotional abilities in offenders, this offender sample showed considerable deficiencies in EL relative to the norm population. Deficiencies were most prolific in interpersonal skills which are usually higher in female community samples than male samples. Interestingly, high Social EQ-i was associated with decreased chronicity and high Self EQ-i was associated with increased seriousness.

Consistent with other studies little difference was found between non-violent and violent offenders on EL scales. It was suggested that lifestyle differences, high comorbidity and a weak classification system accounted for why expected differences were not found. It would appear that violent and non-violent offenders in this sample are more similar in emotional abilities than previous studies have found.

CU traits were not associated with any criminal history variables, nor with measures of violence (instrumental gain and offender type). It was argued that F1 of the PCL: SV is poor at differentiating violent offending in females and it is more likely that F2 items are a better predictor of both offender type and criminal history. These findings highlight significant differences between CU in female offenders compared to male findings. However, it is possible that these differences in women compared to men are due to the PCL: SV F1 inconsistent research which questions the validity and measure of CU traits in women.

There were few relationships between EL aspects and CU traits. It is possible that EL is not associated with CU per se and so the usefulness of these in developing an understanding of crime related affective deficits is limited by their large breadth. Therefore, understanding total EQ-i in offender populations may be redundant, and it may be more beneficial to study specific affective deficits.

One interesting relationship did exist between CU traits and EL. Violent offenders with high CU showed significantly lower EL than non-violent offenders. Thus, perhaps violent offenders need to be assessed separately as they may have specific needs that need identifying more so than non-violent offenders.

From the findings in this study specific emphasis needs to be placed on those that are at risk or have been at risk for suicide attempts. Based on male research of the CU trait, affective deficiencies are associated with less anxiety however in this female sample CU traits were associated more with internalizing problems rather than externalizing problems. Over a third of this sample had attempted suicide and showed significantly lower EL and increased CU traits. These same offenders were more likely to show an increased probability of being reconvicted in five years.

Overall this research has shown that EL is predictive of offending in female offenders and although EL was significantly lower in female offenders it appears that different aspects of EL are impacting on type of criminal history. EL training in those with CU traits may only be beneficial for violent offenders, as violent offenders with high CU traits show significantly lower EL abilities than non-violent offenders. Furthermore, offenders that show chronic offending and serious offending may benefit from training based on Social EQ-i factors, as low Social EQ-i abilities are generally associated with increased chronic and serious offending. Self EQ-i training may not be beneficial in this female sample as higher Self-EQ-i is associated with *increased* seriousness.

#### 4.5.1 Limitations

Although perceived and actual emotional abilities have been found to be similar in male offenders (Mills, Loza, & Kroner, 2003) this might not be the case in female offenders. For example, in this research expected similarities between EL items assessing self-reported perceived empathy and social responsibility were expected to match behaviour assessed items on F1, lacks empathy and doesn't accept responsibility. Further analysis of the unexpected findings may raise concern over the use of self-reported emotional abilities in female offenders. A measure of EL that combines both types of emotional measures may show a more complete overview of EL in female offenders.

Another problem with the EQ-i is that although offenders were asked to rate the statements based on how they would respond the majority of the time, some offenders may have been inclined to answer on how they currently think rather than how they are on average. A look at EL abilities at the time of offending, or when they first became imprisoned should be compared to at the end of their sentence to see if corrections is helping with EL abilities, and may highlight if consistent responding is occurring.

It should be noted that the current study was volunteer based. Female offenders that are more likely to participate in studies may show personality features different to other offenders and have biased the results. Therefore, this sample is not a clear representation of the total female criminal population or convicted female offenders. Many factors such as competency of lawyers, characteristics of victims or class can also affect they way an offender is sentenced to prison or community service. Therefore, this sample is not representative of female offenders, and generalizing to all female offenders would be premature.

Another limitation of the current study is that there is little information pertaining to the type of violent offending i.e. relationship to victims, level of violence or other factors involved in violent incidents. Further isolation of these factors may have highlighted interesting relationships and particular differences between men and women.

#### 4.5.2 Directions for Future Research

A matched New Zealand comparison group from a non-offender population may show significant differences in how New Zealand female offenders differ from a New Zealand control. North American norms may not be predictive of the way in which New Zealand EL abilities are expressed.

A comprehensive meta-analysis of the utility of the PCL: SV F1 in women and on the ability for F1 to discriminate offending type needs to be assessed. At this stage CU traits in female offenders are showing differences to male offender samples and therefore the characterization of psychopathy in women and its affective components are not clear.

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## APPENDICIES

### APPENDIX A: Demographic Questionnaire

#### Demographic Questionnaire

All information on this questionnaire is to be kept confidential. Please do not write your name on this questionnaire so that you may remain anonymous. Thank-you.

1. ID: \_\_\_\_\_
2. Age: \_\_\_\_\_
3. Marital Status: Single \_\_\_ Married \_\_\_ Divorced \_\_\_ Widowed \_\_\_  
Separated \_\_\_ De Facto \_\_\_\_\_
4. Number of Children: \_\_\_\_\_
5. Ethnicity (Please tick one):  
Pakeha \_\_\_ Maori \_\_\_ (iwi) \_\_\_\_\_  
Pacific Islander \_\_\_ Asian \_\_\_  
New Zealander \_\_\_ Other (please specify) \_\_\_\_\_
6. Educational Level (please tick one):  
Did not finish high school \_\_\_  
5<sup>th</sup> form Certificate/NCEA level 1 \_\_\_\_\_  
6<sup>th</sup> form Certificate/NCEA level 2 \_\_\_\_\_  
High School Certificate/NCEA level 3 \_\_\_  
Bursary/University Entrance \_\_\_\_\_  
Tertiary Qualification \_\_\_\_\_
7. Have you ever physically hurt someone for personal gain?  
(circle one) Yes No

8. Rate on a scale of 1-10 how much *emotional distress* you suffered as a child

Not at all			Some distress				A lot of distress		
1	2	3	4	5	6	7	8	9	10

9. Rate on a scale of 1-10 how much *physical suffering* you had as a child

Not at all			Some suffering				A lot of suffering		
1	2	3	4	5	6	7	8	9	10

10. If you suffered emotional distress or physical suffering as a child please indicate who caused the distress/suffering

(Please specify) \_\_\_\_\_

## APPENDIX B: BarOn EQ-i Model

### **BarOn (1997) EQ-i (Emotional Quotient Inventory)**

The BarOn EQ-i is a 133 item self-report questionnaire. Responses are measured on a 1-5 likert scale;

- 1 = very seldom or not true of me
- 2= seldom true of me
- 3= sometimes true of me
- 4= often true of me
- 5= very often true of me, or true of me

The scales assessed were;

- Emotional Self-awareness
- Assertiveness
- Self-Regard
- Self-Actualization
- Independence
- Empathy
- Interpersonal Relationship
- Social Responsibility
- Problem Solving
- Reality Testing
- Flexibility
- Stress Tolerance
- Impulse Control
- Empathy
- Optimism

Some of the examples of statements are;

e.g. “I get Depressed”, “I have a Feeling that something is wrong with my mind”, “It is a problem controlling my rage”, “ I have strong impulses that are hard to control”

## APPENDIX C: Hare's PCL: SV

### Psychopathy Checklist: Screening Version

For copyright reasons the Psychopathy Checklist Screening Version (PCL: SV) cannot be reproduced here. However, a summary of the instrument is provided below

The PCL: SV (Hart, et al., 1995) consists of 12 items assessed using collateral review and a structured interview format. The items are listed below:

1. Superficial
2. Grandiose
3. Deceitful
4. Lacks Remorse
5. Lacks Empathy
6. Doesn't Accept Responsibility
7. Impulsive
8. Poor Behavioural Controls
9. Lack Goals
10. Irresponsible
11. Adolescent Antisocial Behaviour
12. Adult Antisocial Behaviour

The items are of a standard format with the assessor asked to rate the participant on the strength of credible evidence for or against the items using a three point ordinal scale (0, 1, 2) with total, and two factor scores produced. Factor 1 is items from 1-6 and Factor 2 items 7-12. The score range is 0-24.

The manual states that the PCL:SV total score should be interpreted as a dimensional measure of how much an individual matches the prototypical criminal psychopath. For diagnostic purposes a cut-off score of  $\geq 18$  is recommended, this has a sensitivity of 100%, in other words this scores includes all those who if subject to a full PCL-R assessment would meet the diagnostic criteria. However, this cut-off score also has a specificity of only 82%, thus a false positive decision error rate whereby 18% would not meet the diagnostic criteria of the PCL-R.

Specimen item scoring description:

Item 2: Grandiose. Individuals who score high on this item are often described as grandiose or as braggarts. They have an inflated view of themselves and their abilities. They appear self-assured and opinionated in the interview (a situation where most people are somewhat reticent or deferential). If they are in hospital or prison, they attribute their unfortunate circumstances to external forces (bad luck, the .system.) rather than themselves. Consequently they are relatively concerned about their present circumstances and worry little about the future.

Wilson, N. (2003) The Utility of the Psychopathy Checklist- Screening Version for Predicting Serious Violent Recidivism in a New Zealand Offender

## APPENDIX D: University of Canterbury Ethics Approval

HEC Ref: 2006/33

30 September 2008

Ms Lauren Callow  
Psychology  
UNIVERSITY OF CANTERBURY

Dear Lauren

The Human Ethics Committee advises that your research proposal “Emotional Literacy in Female Offenders” has been considered and approved.

Yours sincerely

Dr Alison Loveridge  
*Chair, Human Ethics Committee*

## APPENDIX E: Information Sheet for Participants

You are invited to participate in a study about emotions and female offenders. The study involves filling out three questionnaires. The questionnaires will take about 2-2.5 hours long.

The first questionnaire involves answering questions about your age, history and previous offences. The second questionnaire asks you to rate on a scale of 1-5 how each statement is true of the way you feel think or act most of the time. The final questionnaire is an interview where I ask you questions and write the answers down. This last questionnaire also needs detailed information from your prison files about your conviction history. Your RoC\*RoI (risk of conviction, risk of imprisonment) score will also be noted down

This study is voluntary. This means that you do not have to participate. You are allowed to stop doing the study at any time. Because this study involves questions about emotions it may bring up memories or thoughts you may want to talk about. If needed, a referral to the Psychological Service will be given.

Whether you choose to join the study or not does not affect your legal status in any way, or any decisions made about you in the corrections department. This research is not for the Department of Corrections and findings will not be put into your personal file.

To ensure confidentiality your consent forms will be kept separate from your questionnaires and all information will be kept in locked cabinets at the University of Canterbury. Response sheets will have a randomly assigned number written on them, not your name. This means that your answers will be confidential. Once analysis is complete the response sheets will be destroyed.

This research is being done as a requirement for a Master's degree in Psychology by Lauren Callow, under the supervision of Dr. Anthony McLean. Questions and concerns you have about your participation in this research can be directed to Anthony (03-366-7001) or Lauren (03-3417921).

This project has been reviewed and approved by the University of Canterbury Human Ethics Committee.

## APPENDIX F: Research Consent Form

My name is Lauren Callow and I am doing a study about how people think about and process emotions. I am doing this study for my Masters Degree in Psychology.

The study involves filling out three questionnaires. The questionnaires will take about 2-2.5 hours long.

The first questionnaire involves answering questions about your age, history and previous offences. The second questionnaire asks you to rate on a scale of 1-5 how each statement listed is true of the way you feel think or act most of the time. The final questionnaire is an interview where I ask you questions and write the answers down. This last questionnaire also needs detailed information from your prison files.

This study is voluntary. This means that you do not have to participate. You are allowed to stop doing the study at any time. If needed, a referral to the Psychological Service will be given.

Whether you choose to join the study or not does not affect your legal status in any way, or any decisions made about you in the corrections department. This research is not for the Department of Corrections and findings will not be put into your personal file.

The answer sheets will have your PRN number written on them, not your name. This means that your answers will be confidential.

If you agree to join in this study please sign this consent form.

I \_\_\_\_\_ have read this form and wish to participate in this study. I understand the general purposes and involvement required. I understand the risks that may occur and that I have a right to stop participating at any time. I understand that my identity is kept confidential and that only the researcher will know my identity in this study.

Date \_\_\_\_\_

Signature of Participant \_\_\_\_\_

Signature of Researcher \_\_\_\_\_