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Victim Empathy and Emotion Processing in Sex Offenders

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Abstract

Sex offenders are considered to suffer from deficits in their ability to experience empathy, and this is thought to be important in the development and maintenance of their offending. The first article reviews the literature concerning victim empathy deficits in sex offenders and outlines a multi-component staged model of empathy. Emotion recognition, the first stage of the model, is considered in greater detail as it is proposed to be most pivotal to the empathic process. A model of emotion processing that has developed from the neurocognitive literature is presented as a way of understanding this first stage in this model of empathy. The implications of this more specific approach to the assessment and treatment of sex offenders are discussed alongside suggestions for future research.

The empirical paper investigates non-verbal emotion recognition from a neurocognitive emotion processing perspective. Two matched groups of 17 convicted sex offenders and 20 community males undertook a series of tasks involving face and prosody discrimination problems (The Florida Affect Battery, Bowers *et al.*, 1991). No significant differences were found between the sex offender group and the comparison group on most tasks, although, consistent with previous research, there was a non-significant trend for sex offenders to have specific problems on identifying facial emotion tasks. It is suggested that future research explores victim-specific and state-dependent aspects of emotion processing and to consider how this may improve intervention, and, ultimately, the prevention of sexual offending.

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VICTIM EMPATHY AND EMOTION PROCESSING IN SEX OFFENDERS

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ABSTRACT. Sex offenders are considered to suffer from deficits in their ability to experience empathy, and this is thought to be important in the development and maintenance of their offending. Evidence for general victim empathy deficits is equivocal and the concept and measurement of empathy are confused. This article reviews the literature concerning victim empathy deficits in sex offenders and outlines a multi-component staged model of empathy which suggests that deficits may be more specific than has previously been thought. Emotion recognition, the first stage of the model, is considered in greater detail as it is thought to be most pivotal to the empathic process. A model of emotion processing that has developed from the neurocognitive literature is presented as a way of understanding this first stage in the proposed model of empathy. The implications of this more specific approach to the assessment and treatment of sex offenders are discussed alongside suggestions for future research.

KEY WORDS. Sex offenders; victim empathy; emotion processing

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Introduction

To what extent do people who commit sexual offences lack empathy for their victims? It has long been argued that empathy plays a major role in both the aetiology and maintenance of sexual offending (Bumby, 2000). Clinicians generally accept that sex offenders suffer deficits in their capacity for empathy and accordingly, empathy-enhancing components have been included in the treatment of sex offenders. This is based on the premise that the attitudes of sex offenders toward their victims will change if they understand how the victim feels, with the subsequent development of empathy inhibiting future sexual abuse (e.g., Pithers, 1994).

However, these claims are based on clinical observations of sex offenders and have not been substantiated by empirical evidence (Geer, Estupinan & Manguno-Mire, 2000). Indeed in their review of the literature, Marshall, Hudson, Jones and Fernandez (1995) concluded that there was either confusion about the nature of empathy or vagueness regarding the extent of the supposed empathic deficit. The study of empathy specifically within the field of sexual offending has lacked the same critical empirical examination and theoretical framework as the general study of empathy. Both the conceptualisation and measurement of empathy have been approached from diverse theoretical orientations, resulting in inconsistencies and equivocal findings in the research (Hornblow, 1980).

The understanding of empathy deficits in sex offenders has been compounded by these methodological weaknesses, although Marshall et al. (1995) have gone some way to addressing this issue in their proposal of a multi-component model. This is considered a more useful way of conceptualising

empathy and has fostered research by providing a model open to empirical investigation.

One important issue to bear in mind when considering any research on sex offenders is the diversity of this population. Different subtypes of sex offenders are believed to differ in terms of their aetiology and clinical presentation (e.g., amount of sexual deviance, violence and social competence). This makes it difficult to draw many conclusions about sex offenders in general and this is reflected in the apparently inconsistent research findings to date (Maguth Nezu, 2000).

This review will begin with a summary of the research on the conceptualisation and measurement of empathy, limited to sex offenders. The reconceptualisation of empathy will then be discussed with reference to Marshall et al.'s (1995) four stage model. The first stage of the model, emotion recognition, will be considered in greater detail as it is considered most pivotal to the process and relates to the concept of emotion processing. Research that has investigated this stage empirically will subsequently be examined. In an effort to understand the mechanism by which people process emotion, a model of emotion processing that has developed from the neurocognitive literature will be discussed. It will be argued here that the first stage of the empathic response, according to Marshall et al.'s (1995) model, parallels an aspect of non-verbal emotion processing. Furthermore, the theory of modularity will be considered to aid our understanding of the way in which people process emotional cues from other people's faces and voices. Thus, by considering emotion processing, this review will attempt to unravel the first stage of Marshall et al.'s (1995) proposed model. The review will conclude with clinical and research implications of emotion processing to the assessment and treatment of sex offenders.

The Concept of Empathy

Despite over a 100 year history of interest in empathy (Pithers, 1994), there is surprisingly little agreement as to its essential elements (Marshall, 1999). One of the difficulties in examining this construct has been the divergent nature of the research which has arisen from different theoretical orientations, and has resulted in a lack of integration, leading to isolated research interests (Hornblow, 1980). This research has given rise to disparate definitions of empathy to the extent that it has been used as an all-embracing term to describe various concepts and behaviours. Regardless of these complexities and an absence of a generally accepted theoretical model and definition, research in the 1960s and '70s produced some consistent findings (Hornblow, 1980). This section will give a brief review of the main issues relating to the definition of empathy.

Definition of Empathy

Despite there being no agreed-upon definition of empathy nor any generally accepted model for understanding empathic processes (Hornblow, 1980), empathy has in the main been defined as either a cognitive response, an emotional response, or more recently an interplay between the two (Ohbuchi, 1988). As such, definitions have included the intellectual apprehension of another's condition or state of mind (Hogan, 1969), an involuntary vicarious experience of another's emotional state (Mehrabian & Epstein, 1972) and the ability to perceive another person's point-of-view, experience the emotions of another and behave compassionately (Fisher & Howells, 1993). This last definition encompasses cognitive, emotional and behavioural components.

Another pertinent issue concerns the extent to which empathic abilities and behaviours are defined as situationally-specific or relatively stable across time and

situations (Hornblow, 1980). Traditionally, empathy has been conceptualised as a fixed disposition that is utilised habitually across time and place. Researchers have tended to construe individuals as either empathic or unempathic (Marshall, 1999). This argument implies that when an individual is deficient in empathy, they are suffering from an invariable generalised deficit across time and place. Such an approach appears to neglect the person-situation debate (Epstein & O'Brien, 1985) which contests the stability of empathy across situations (Bumby, 2000). This issue has implications for the study of empathy with reference to sex offenders, which has been debated by Marshall et al. (1995) and will be considered in a later section.

After years of empathy being defined as either a cognitive or an emotional response, the need to adopt a broad definition of empathy which would provide a basis for formulating testable hypotheses was proposed by Hornblow (1980). Davis (1980) was one of the first researchers to propose a more comprehensive definition of empathy, when he construed it as a complex cognitive and emotional process. His Interpersonal Reactivity Index (IRI; Davis, 1983), represents the first multi-dimensional approach to the conceptualisation and assessment of empathy, which influenced Marshall et al. (1995) to propose their process model of empathy.

Summary

The different theoretical approaches to the study of empathy have resulted in a divergence of definitions of this concept. Generally, empathy has been defined as either a cognitive or emotional response, although more recently Davis (1980) proposed that empathy combines both components. The conceptualisation of empathy has also differed according to whether the emphasis is on empathy as a trait, which is stable across time and place, or a state which is proposed to be situation-specific. The debate regarding the stability of empathy as a concept

continues. Acknowledging that empathy may be multi-dimensional in recent years, has facilitated the investigation of testable hypotheses, which has refined empathy research.

Davis' IRI scale (1983), Hogan's Empathy Scale (1969) and Mehrabian and Epstein's Emotional Empathy Scale (1972) will be considered in the next section as the three most frequently used measures of empathy. They exemplify a multi-component, cognitive, and affective understanding of empathy, respectively, and their application to the assessment of empathy deficits in sex offenders will be discussed shortly, after a brief reminder of the relevance of the study of empathy in sex offenders.

Relevance of Empathy in Sex Offenders

Empathy has long been proposed to play an important role in the aetiology and maintenance of sexual offending and has generally been considered an essential focus in the assessment and management of sex offenders (Bumby, 2000). The implication is that sex offenders lack empathy for their victims, which allows them to commit sexual offences. The antithesis proposes that feeling empathy aborts the ongoing harmful behaviour towards a distressed person, implying that non-sex offenders do not offend partly because they possess empathy as a form of restraint (Bumby, 2000). It follows that if sex offenders knew how much their behaviour harmed their victims, they would refrain from offending (Geer et al., 2000).

This argument appears to have much face validity and is intuitively appealing, yet the research evidence for such deficits is scant (Geer et al., 2000). The widespread belief that lack of empathy is representative of and perhaps distinct to sex offenders, appears to have developed from the repeated observation

of an apparent lack of empathy in this population in clinical practice (Bumby, 2000). This notion has become integral to the development of sex offender treatment programmes, despite a lack of supporting empirical evidence. Over time, victim empathy components have become the most common element of sex offender treatment programmes, in at least 94% of programmes in the U.S.A. (Knopp, Freeman-Longo, & Stevenson, 1992). Although empathy components vary from programme to programme, they all attempt to enhance the offender's understanding of the harm that befalls the victim of sexual offending, often using a version of Pithers' (1994) victim empathy programmes (Hanson, 2001 and Marshall, 2001 personal communication). Despite this focus on empathy training the research evidence is equivocal regarding the effectiveness of treatment with this population (Hanson & Scott, 1995), which throws into question the appropriateness of this approach.

The ensuing discussion will critically review empathy research specific to sex offenders, with particular focus on methodological issues. Research utilising the three aforementioned general empathy scales with sex offenders will be discussed first, followed by research with measures developed specifically to assess empathy in sex offenders.

Empathy Measures Specific to Sex Offenders

Since empathy has been studied under a variety of topics, from person perception to social cognition, the procedures used to measure it have been so diverse that it is difficult to determine if the same concept is being examined (Marshall, 1999). Ultimately, this makes comparison of research and drawing conclusions difficult.

The measures of empathy are usually operational definitions derived from the theoretical understanding of empathy as conceptualised by the researcher. The three main empathy scales which have been used to investigate empathy amongst sex offenders will now be discussed.

Psychometric Properties of Empathy Scales

Hogan (1969) produced a 64-item self-report scale which is appealing for its high face-validity. It attempts to measure cognitive-empathy-mediated social skilfulness, although is probably more a measure of interpersonal adequacy and social extraversion (Hornblow, 1980) and role-taking ability (Chlopan, McCain, Carbonell, & Hagen, 1985). Reliability data on this scale suggest it is not satisfactory for a published test (Cross & Sharpley, 1982).

Mehrabian and Epstein's Emotional Empathy Scale (EES; 1972) is a 33-item scale of emotional empathy which measures vicarious emotional arousal and empathic concern. Further research with this scale has been advised against, since it has been found to have both poor internal consistency (Langevin, Wright & Handy, 1988) and poor construct validity (Dillard & Hunter, 1989).

The IRI scale (Davis, 1983) consists of four 10-item subscales, namely, perspective-taking (cognitive), fantasy (emotional), empathic-concern (emotional) and personal distress (emotional). The available psychometric data point favourably towards the scale, although much supporting data has been generated by Davis himself. It correlates well with both Hogan's and Mehrabian and Epstein's scales, providing evidence for the notion of the former as a measure of empathic concern and the latter as a measure of perspective taking ability (Chlopan et al., 1985).

General Empathy in Sex Offenders

Research findings regarding 9 murderers, 35 violent non-sexual offenders, 15 rapists, 40 child sex offenders and 16 non-violent property offenders found no significant differences between these groups on the EES, and all participants scored within the normal range (Hoppe & Singer, 1976).

Langevin et al. (1988) examined empathy, assertiveness, aggressiveness and defensiveness in a sample of 98 sex offenders (32 incest offenders, 38 paedophilic offenders, 21 sexual aggressives and 7 exhibitionists). The sex offenders also scored within the normal range of Mehrabian and Epstein's (1972) EES, indicating no significant deficits in emotional empathy.

Rice, Chaplin, Harris and Coutts (1994) investigated levels of empathy of 14 rapists compared to 14 non-sexual offenders. Rapists reported themselves to be less empathic on Hogan's scale but not on the EES. There was also a significant correlation between deviant arousal to rape and lower self-reported empathy. Rice et al. (1994) concluded that rapists' behaviour is not inhibited by the victim's suffering because they experience little or no empathy. However, given the small sample size and the use of measures which have been found to be psychometrically weak, these claims should be interpreted with caution.

Marshall, Jones, Hudson and McDonald (1993) examined generalised empathy in 92 incarcerated child sex offenders. Results from the IRI scale (Davis, 1983) did not differ significantly from normative data on a male student and factory worker sample. The authors concluded that child sex offenders did not display a deficit in general empathy, as measured by the IRI. It was proposed that this sample may have been 'faking good' in order to obtain early release, so the authors conducted a second study evaluating the responses of 20 child sex

offenders attending a community-based clinic. Child sex offenders were deficient on overall scores on the IRI scale and on the Fantasy subscale, which specifically assesses the ability to identify with the negative emotional state of another. They concluded that this sample suffered from a relative deficit in general empathy. They speculated about the specificity of empathy deficits and proposed that future research should focus on specific deficits, rather than global empathy and to consider victim-specificity.

Another study using the IRI scale (Davis, 1983) found that convicted child sex offenders typically scored higher than a sample of community controls on two measures of emotional empathy, while scoring lower on a measure of cognitive empathy (Beckett, Beech, Fisher & Fordham, 1994). However, this finding appears to have been overlooked by subsequent researchers since it is inconsistent with conventional wisdom that child sex offenders must be deficient in victim empathy (Thornton, Todd & Thornton, 1996).

So, despite its intuitive and clinical plausibility, there appears to be little evidence to justify the proposition that men who commit sexual offences may show a general lack of empathy (Thornton et al., 1996). Indeed several studies indicate that sex offenders appear to be at least as empathic as control groups, and where offenders do score lower on empathy scales, these supposed deficits are not clinically remarkable (e.g., Rice et al., 1994). This apparent discrepancy between clinical observation and empirical findings will now be considered in light of the evaluation of the empathy studies.

Evaluation of Empathy Studies

The lack of evidence for empathy deficits amongst sex offenders may be attributable to several factors, ranging from methodological to conceptual issues.

Firstly, as discussed previously, the psychometric properties of the general empathy measures call into question their validity and reliability as assessment tools. A further criticism of these measures is that they have been developed with student or community populations, which may have limited applicability to sex offenders, who are likely to be incarcerated, older and to have received less formal education (Langevin et al., 1988). Thirdly, some of the negative and inconsistent findings amongst empathy research may be due to the lack of an operational definition of the concept (Ohbuchi, 1988), which reflects the lack of any underlying theory (Bumby, 2000). Fourthly, this earlier empathy research overlooked any consideration of situational, temporal or individual differences which may affect a person's empathic responsiveness (Bumby, 2000; Geer et al., 2000). Possibly one of the greatest criticisms of this research has been the use of general measures of empathy which conceptualise empathy as a global 'trait'. The assumption that an individual's empathic skills will be stable across persons, situations and time is a naïve one which, for some time, impeded advances in the study of empathy.

These methodological and conceptual shortcomings have prompted a small, but significant corps of researchers (Marshall et al., 1995) to develop a framework which attempts to address these problems and also lends itself to empirical scrutiny. Marshall et al.'s (1995) multi-dimensional approach will now be considered with reference to relevant empirical evidence.

A Reconceptualisation of Empathy

The viewpoint that sex offenders are deficient in empathy skills remained virtually uncontested until Marshall et al. (1995) critically challenged this established assumption (Bumby, 2000).

Their review of the literature revealed that there was a distinct lack of support for the existence of general empathic deficits amongst sex offenders. They criticised the research on the methodological and conceptual grounds that have just been discussed. They maintained that the apparent lack of consensus regarding victim empathy deficits amongst sexual offenders was attributable to the use of different methodologies which are likely to have assessed different aspects of the processes thought to underlie empathic responding. Furthermore, Marshall et al. (1995) highlighted the inappropriate use of generalised empathy measures, which had been developed and normed on general populations, to reveal deficits specific to sexual offenders.

Rather than concluding that empathy deficits amongst sex offenders were nothing more than clinical intuition that was not substantiated by empirical research, Marshall et al. (1995) set about developing a model to address some of the limitations of previous approaches. Specifically, they reconceptualised empathy as a staged process to reflect its complex nature and facilitate the measurement of its different facets. Building on Davis' (1980, 1983) notion of the multi-dimensional empathic process, this was the first significant move away from viewing empathy as a singular trait which was either present or absent among sex offenders (Bumby, 2000). Around the same time, other researchers also began to reconceptualise the concept of empathy (e.g., Hanson & Scott, 1995), although it is Marshall et al.'s (1995) reconceptualisation that appears ubiquitously in later sex

offender empathy literature. These stage models of empathy will now be considered.

Marshall et al.'s (1995) Process Model of Empathy

Marshall et al. (1995) focused on the development of a multi-dimensional, staged model of empathy. The four stages in the model are emotion recognition, perspective-taking, emotion replication and response decision.

The first stage, emotion recognition, requires the offender to accurately discriminate the emotional state of the victim. This stage is considered to be prerequisite to the empathic process, upon which the subsequent stages rely. Perspective-taking refers to the ability of the offender to identify with, or put himself in the place of, the victim and to assume the perspective of the victim. In the emotional replication stage, the offender experiences an appropriate emotional response to the distressed victim, which also requires the offender to possess an adequate emotional repertoire. Furthermore, the authors argue that it is first of all necessary to recognise that emotion (stage 1) and then to adopt the perspective of that person (stage 2). The final stage is response decision and refers to the offender making a decision as to whether he will respond appropriately to the victim, if he chooses to respond at all.

Marshall et al. (1995) propose that an individual must pass through each stage before an empathic response can be achieved. They suggest that an individual may have deficits at any stage, which would prevent them producing an empathic response. They speculate that with practice at suspending their empathic response at any or all of these possible stages, sex offenders may be able to empathically dissociate themselves from the distress induced by their offences. If offenders are able to learn to suspend these skills prior to or during their offending, it could be

argued that they could also enhance them during treatment. The format and effectiveness of victim empathy training will be considered later in the section on interventions.

Also acknowledging the complexity of empathy as a reaction, Hanson and Scott's (1995) conceptualisation of empathy consisted of three major components. Their first factor, perspective-taking ability, appears to combine both stages 1 and 2 of Marshall et al.'s (1995) model since it is a cognitive process which refers to the ability to accurately identify the emotional state of the victim (emotion recognition) and perceive how they would respond in a given situation (perspective-taking). The second factor, 'emotional responding to others' is referred to as an affect-driven component in which the offender experiences and reflects similar emotion to that observed in the victim, and this corresponds with Marshall et al.'s (1995) stage 3. The third factor, 'caring', refers to the offender's decision to respond appropriately or not, and compares with stage 4. As with Marshall et al. (1995), Hanson and Scott (1995) propose that sex offenders may have empathy deficits in any or all of the three components which may be general or specific to their victims, or to the groups to which their victims belong. They hypothesised that although an offender may accurately perceive a victim's plight and emotionally respond to their victims (reflecting intact skills at stages 1 and 2), they may respond non-constructively by becoming angry, escaping or minimising the discomfort of the victim using cognitive distortions. They also speculated that putative empathy deficits may be either stable or situation-specific, identifying high emotional arousal or alcohol consumption as risk factors that may inhibit empathic skills.

More recently, Miner (2000) added a precursor stage to identifying the emotional reactions of others, which related to the ability to identify one's own emotional reactions. He proposed that if a sex offender cannot identify his own emotions, he would be unlikely to be aware of others' emotional reactions. Measuring one's awareness of one's own emotional reactions is an important first step in a competency-based assessment of empathy, and it is possible that deficits at this stage contribute to an impaired empathic response to victims.

In view of the shortcomings of earlier sex offender empathy research, this revised approach, in particular Marshall et al.'s (1995) model, represents a pragmatic way of studying this complex concept. Above all it is intuitively appealing from a cognitive-behavioural perspective since it offers a method of breaking down empathic responding into observable and measurable units, which may facilitate empirical investigation (Geer et al., 2000). This is especially salient given that the majority of specialist sex offender treatment programmes in both the USA and UK report their treatment orientation as cognitive-behavioural (Knopp et al., 1992; Beech, Fisher & Beckett, 1998 respectively).

However, whilst this model represents an innovative approach to the study of victim empathy, to date there is only preliminary support for the four proposed stages and further empirical investigation is required before the model may be adopted as a satisfactory conceptualisation of empathy. The limited empirical evidence that is available has investigated the first stage of the model, namely emotion recognition (Geer et al., 2000). In other words, to experience the emotional state of another, one must first recognise emotion. In view of its proposed importance to the empathic process and its intuitive appeal, it is this stage that will now be discussed in more detail. Research from the extensive field of

social psychology will be discussed first, followed by the smaller, yet significant research on emotion recognition in sex offenders.

Emotion Recognition

Emotion recognition, has been extensively investigated within social and cross-cultural psychology (e.g., Ekman, 1982, 1993; Izard, 1971, 1991) where the relation between facial expressions and inner emotion has long been debated (Schneider, Hastorf & Ellsworth, 1979). The two main questions leading this debate have been firstly whether certain facial expressions are associated with particular emotions and secondly, whether facial expressions of emotions are universal. These questions have been approached from the two extreme positions of universality and randomness of emotions and the more moderate cultural relativist position (Schneider et al., 1979).

One of the earliest studies of the accuracy of judging emotional states on the basis of facial expressions was by Charles Darwin (1872). He believed that facial expressions were universal within a species because they were innate and underpinned by an evolutionary substrate. He postulated that on the whole, people judged emotion accurately, but there were also many sources of inaccurate judgements. More recent research has demonstrated almost indisputably that distinctive universal expressions exist for anger, fear, disgust, sadness, and enjoyment (Ekman, 1982). Although the evidence for contempt, surprise and interest is weaker, research indicates that these emotional expressions are also probably universal (Izard, 1991). The evidence that people can judge faces accurately indicates that there is a link between facial expression and emotion (Ekman, 1993).

Miller and Eisenberg (1988) attempted to assess the accuracy of emotion recognition in empathic and non-empathic individuals. They found that empathic participants were more skilled at discriminating the emotional states of others than were non-empathic participants. They suggested that in order for an individual to experience the emotional state of another, they must first recognise the other person's emotional state. A limited number of studies have explicitly investigated emotion recognition amongst sex offenders, even though the researchers did not design their studies to specifically evaluate the Marshall et al. (1995) model. These studies will now be reviewed.

Emotion Recognition in Sex Offenders

Hudson, Marshall, Wales, McDonald, Bakker and McLean (1993) conducted a study to explicitly investigate emotion recognition amongst a group of sex offenders, violent non-sex offenders and non-violent, non-sex offenders. They used 36 slides from Ekman and Friesen's (1975) facial expression scale, to depict males and females displaying the following facial expressions: surprise, fear, disgust, anger, happiness and sadness. They found that violent non-sex offenders were most sensitive to emotional stimuli, whereas sex offenders appeared the least sensitive to the facial expressions. Fear and anger were the least accurately identified emotions across all participants, with fear often being identified as surprise. Hudson et al. (1993) conclude that this finding suggests that sex offenders misinterpret their victim's behaviour as positive towards their sexual advances, so that interpreting fear as surprise may serve to facilitate offending. However, Ekman (1982) has reported that fear and surprise tend to be confused across cultures. This suggests that the misinterpretation of other people's emotions (at least fear and anger) is not specific to sex offenders. One should remember that the

aetiology and maintenance of sexual offending are complex and multi-factorial, and that supposed emotion recognition deficits may account for only a small, but significant piece of the offending puzzle (Maguth Nezu, 2000).

In the same article, Hudson et al. (1993) report a study to investigate whether or not emotion recognition skills were more specifically related to the offence types of the sex offenders. They used line drawings of adults and children from the Emotional Expression subtest of the Test of Social Intelligence (O'Sullivan & Guilford, 1976). Twenty child sex offenders and twenty community controls completed the IRI scale (Davis, 1983) and the Emotional Expression Test. Community controls were more accurate than child sex offenders in identifying both adult and child emotions. There were no differences in emotional recognition accuracy between the child and adult stimuli. Child sex offenders scored lower than controls on total IRI scores and the Fantasy subscale of this index. The authors concluded that the child sex offenders appeared to have general problems in identifying emotional expressions in others, which were not specific to their victim group, i.e., children.

The two Hudson et al. (1993) studies suggest that sex offenders may have a general deficit in emotion recognition and that this skill may be linked to empathic ability. However, caution should be exercised when drawing definitive conclusions from these results given both the small sample size and the ecological validity of the use of line drawings as a stimulus.

Lisak and Ivan (1995) investigated empathy amongst a group of self-reported sexually aggressive male undergraduates. In their study, 33 sexually aggressive males and 149 non-aggressive controls completed the Facial Affect Recognition (FAR) Task and Mehrabian and Epstein's (1972) measure of empathy.

The FAR required participants to identify the emotions depicted on a series of photographs of men and women. Sexually aggressive males were less accurate than controls in identifying the emotions portrayed in pictures of men, but there were no group differences for photographs of females. There was virtually no correlation between empathy and female FAR, and the significant correlation between empathy and male FAR had little practical significance. Contrary to the researchers' initial hypotheses, they found that sexually aggressive men's relative lack of empathy was not based on an inability to accurately read the other person's facial affects. However, they added that in the absence of a non-sexually aggressive group, they could not determine whether these results were specifically applicable to sexually aggressive individuals or aggressive individuals in general. In view of the poor psychometric properties of Mehrabian and Epstein's (1972) empathy scale (Langevin et al., 1988) the findings of this study should be treated with caution.

The ability to recognise expressed emotion is thought to be critical not only to the ability to respond with empathy to the emotional distress of others, but also to the decoding stage of social processing. Adopting a social competence approach, three studies have investigated rapists' interpretation of women's interpersonal cues, which are relevant to the discussion of emotion recognition and sex offenders. Lipton, McDonel and McFall (1987) found that self-reported sexually aggressive men were relatively incompetent in decoding women's interpersonal cues during a videotaped interaction. Using the Test of Reading Affective Cues (TRAC) which consists of videotaped vignettes depicting interactions between heterosexual couples, they found that rapists were significantly less accurate in their interpretation of women's social cues in first date interactions than were non-

violent sex offenders. Rapists were also less accurate in interpreting women's cues compared to men's cues.

McDonel and McFall (1991) found that male college students who were less accurate in decoding women's negative cues, using the TRAC, were higher in rape supportive attitudes, and scored higher on a self-reported measure of likelihood of committing rape. Malamuth and Brown (1994) also found that self-reported sexually aggressive men were relatively incompetent in decoding women's emotions.

These three studies appear to have reliably demonstrated that sexually aggressive males may have specific decoding deficits which have been found to be useful predictors of sexual aggression (McDonel & McFall, 1991). One may tentatively suggest that these decoding deficits refer to specific difficulties in the emotion recognition skills of sex offenders. This would fit well with Marshall et al.'s (1995) suggestion that sexual offenders are likely to have specific, rather than global empathy deficits. McFall et al.'s measurement tools show good discriminant validity, and although they are not currently used in assessments of sex offenders, they warrant further research as a promising source of new measures (Langton & Marshall, 2000).

However, with the exception of Hudson et al. (1993), research on emotion recognition and non-verbal cue interpretation has been done with self-reported sexually aggressive male undergraduates, rather than convicted sex offenders. Whilst it may be valid to use analogue populations, care must be taken when extrapolating results and drawing conclusions in actual sex offenders. These studies also highlight how different methodology can lead to apparently contradictory results. For example, sexually aggressive men were found to be as

accurate as controls at interpreting photographs of women's emotions (Lisak & Ivan, 1995), but they were also found to be less accurate than controls in studies using videotaped stimuli (Lipton et al., 1987; Malamuth & Brown, 1994; McDonel & McFall, 1991). One could argue that the Lisak and Ivan (1995) finding was an anomaly arising from their research design, but given the paucity of studies explicitly investigating emotion recognition, it is too soon to draw such conclusions. This emphasises the need to evaluate a study's design when considering its importance and implications.

In summary, the evidence from these few studies suggest that child sex offenders may have global emotion recognition deficits and sexually aggressive males who report high rape supportive attitudes, may demonstrate emotion recognition problems which are specific to their target victim group, i.e., women. The small sample size of these studies and the use of analogue populations limit the generalisability of the results. Nevertheless these trends warrant further investigation to clarify whether or not the proposed emotion recognition deficits are specific to the offenders' target victim group. Recently, Marshall and colleagues embarked on a more person-specific deficit approach by developing victim-specific measures (Fernandez, Marshall, Lightbody & O'Sullivan, 1999) and situation-specific measures (Hanson & Scott, 1995). These will now be discussed.

Specific Measures of Empathy Towards Victims

The impetus for developing this area of research was to move even further away from the global approach to empathy by investigating the proposed extent of empathy deficits in sex offenders towards potential victims.

Hanson and Scott (1995) designed the Empathy for Women and Child Empathy Tests to assess offenders' understanding of target victims' distress during sexually abusive encounters. The tests include written vignettes of heterosexual adult interactions and adult-child interactions respectively, and were administered to groups of incarcerated sex offenders (21 rapists, 66 child sex offenders and 39 both), community sex offenders (26 rapists, 14 child sex offenders and 9 both), community non-offenders, non-sexual criminals and student non-offenders. The interactions are described as sexually abusive, non-abusive or ambiguous. The authors predicted that overestimating the distress of the woman or child would indicate the offender was attempting to 'fake good', whereas underestimates of distress would indicate empathic deficits. Results on the Empathy for Women test reveal that rapists tended to underestimate the women's distress in the vignettes. On the Child Empathy Test, responses demonstrated that child sex offenders who were in treatment more accurately identified distress than did those who were untreated. Rather than reflect actual differences in skill, this may indicate that those who had been treated simply knew how to respond correctly. In addition, the familial child sex offenders showed evidence of 'faking good' by their overestimating the distress of children. However, the Child Empathy Test had low internal consistency and no differences were found between sex offenders and control groups. This measure is currently being revised to improve some of its psychometric properties.

Fernandez et al. (1999) developed and evaluated a measure of victim empathy for the assessment of child sex offenders, for assessing the first three stages of the multi-component model proposed by Marshall et al. (1995). Sixty-one non-familial child sex offenders completed the Child Molester Empathy Measure

(CMEM), which they designed specifically for this study. The measure assessed empathy in the following three contexts: toward a child in a road traffic accident who was disfigured; toward a child who had been sexually abused by an unknown assailant over a period of time; and toward the offender's own victim. The abilities to identify types of distress (the emotion recognition stage in Marshall et al.'s model), associated degree of emotional suffering and problematic experiences in the identified target, and the respondent's emotional reaction to the victim's distress were assessed. This measure was psychometrically robust as evidenced by internal consistency, discriminant validity and test-retest reliability which demonstrated within-treatment changes following empathy enhancement training. They also found a relative deficit in empathy toward the offender's own victim.

In the same article, Fernandez et al. (1999) report a study to refine the CMEM. This time they compared 29 child sex offenders' responses with a group of 36 male non-offenders and confirmed the internal reliability and test-retest reliability of the CMEM as the previous study. These results also found that the child sex offenders were less empathic than the non-offenders toward the non-specific victim of sexual abuse, and were less empathic towards their own victims than these non-specific victims of sexual abuse. Interestingly, both offenders and non-offenders were equally empathic toward the child accident victim. Also, the levels of empathy demonstrated by offenders towards the general victim of sexual abuse and the accident victim were within the normal range of scores. These findings led the researchers to suggest that the child sex offenders may have learned to inhibit empathic responses toward their own victims, serving the function of allowing the offender to continue to engage in his offending without the negative self-evaluation (e.g., guilt or shame) that often accompanies

transgressions. This is similar to the process of cognitive distortion, which is reviewed by Bumby (2000).

These findings have been replicated in a series of studies which have confirmed that empathy deficits in child sex offenders primarily involve their attitude and feelings toward their own victim (Marshall, Champagne, Brown & Miller, 1997; Marshall, Champagne, Sturgeon & Bryce, 1997). However, it is interesting that Hudson et al. (1993) did not find a victim-specific emotion recognition deficit amongst the child sex offenders, which suggests that the particular methodological approach to evaluating the skill influences the outcome. This highlights the need for caution and attention to research design when reviewing the literature on empathic skill deficits. Nevertheless, it would appear that at least some sex offenders are not deficient in empathy toward all people, but rather have problems in being empathic toward their own specific victims (Marshall, 1999). This notion warrants further investigation, especially amongst rapists.

Summary of Research to Date

The evidence so far indicates that sex offenders may not have global empathy deficits. Rather, their problems with empathy may be specific to the emotion recognition stage of Marshall et al.'s (1995) proposed multi-dimensional model of empathy and/or to their potential victims. These findings suggest two potentially useful lines of future research. Firstly, the nature and extent of empathy deficits specific to potential victims could be more comprehensively assessed by using both Fernandez et al.'s (1999) measure and Hanson and Scott's (1995) tests (Marshall, 1999). Secondly, further research to clarify the specific problems that sex offenders may have with emotion recognition skills could be beneficial. It is

also possible that sex offenders have deficits at other stages of Marshall et al.'s (1995) model, and these are worthy of investigation.

One possible approach to investigating emotion recognition skills further is within a neurocognitive model of emotion processing. This framework has intuitive appeal to the study of empathy in sex offenders since it appears to complement the emotion recognition stage of Marshall et al.'s (1995) model of empathy. It offers one way of understanding the cognitive mechanisms involved in emotion recognition skills, and may clarify the nature and extent of the proposed emotion recognition deficits in sex offenders. To date, a neurocognitive emotion processing model has not been investigated within a population of sex offenders, so evidence for the model will be provided from neuropsychological case studies of individuals with brain injuries and from the literature on schizophrenia. Following this, a measure of emotion processing will be reviewed.

A Neurocognitive Model of Emotion Processing: Implications for Empathy

Emotion processing is concerned with how people interpret affective signals which may be involved in the emotion recognition stage (stage 1) of Marshall et al.'s (1995) model of empathy. Specifically, non-verbal emotion processing of faces and voices appear to be implicit skills in emotion recognition, and given the proposed importance of this stage to subsequent empathy skills, it seems relevant to consider the possible mechanism underlying these skills.

Emotion processing has, in the main, been studied from a neurocognitive perspective. Before the theoretical developments of the model are discussed however, a definition of emotion processing will be presented. Cadieux and Greve

(1997) suggested that emotion processing refers to the "cognitive processes involved in the ability to comprehend the emotional state of others using cues provided in facial expression or the intonation of speech (prosody), and/or communicate one's own internal emotional state via the same mechanisms (facial expression, vocal prosody)" (p. 411).

Drawing on considerable evidence from neuropsychological research, they claim that there is an independent mechanism in the brain responsible for the comprehension and expression of non-verbal emotional facial and prosodic information. The theoretical underpinnings of this notion will now be considered.

Theoretical Developments in Emotion Processing

Early theoretical developments in emotion processing were based primarily on Fodor's (1985) notion of 'modularity'. In this he argued that the central nervous system is composed of several distinct neural subsystems, which were relatively independent of each other. Later, Schacter (1990) developed this view, suggesting that not only are there domain-specific neural units, but there is also dissociation, or selective disconnection between these units. This view was further refined in the theories of emotion processing described by Bowers, Bauer and Heilman (1993), who argued for the existence of specific neural networks that are concerned with decoding the emotional meaning of non-verbal cues. They cited data from cognitive neuropsychology and cognitive neuroscience as evidence for domain-specific subsystems within the right hemisphere of the brain which are dedicated to processing emotion from faces and voices. The model of emotion processing described by Bowers et al. (1993) suggests that those systems that support the perception of emotion are distinct from those systems that support the production of emotion.

Bowers et al. (1993) have expanded upon this earlier modularity and disconnection work by proposing the idea of the existence of two separate non-verbal emotional lexicons: one for faces and one for voices (prosody). Their model is based on research with patients with right hemisphere damage who can perform normally on expressive emotional prosody tasks, but are impaired on receptive facial tasks (e.g., Borod, Koff, Perlman-Lorch & Nicholas, 1986). Further support for the independence of the production and perception of emotion is provided from patients with schizophrenia (Shaw, Dong, Lim, Faustman, Pouget & Alpert, 1999), aphasia (Barrett, Crucian, Raymer & Heilman, 1999), frontal lobe damage (Hornak, Rolls & Wade, 1996), Parkinson's Disease (Breitenstein, Daum & Ackermann, 1998) and psychopathic disorder (Blair & Cipolotti, 2000).

In an attempt to corroborate and test their hypotheses, Bowers, Blonder & Heilman (1991) developed a standardised assessment battery, the Florida Affect Battery (FAB; Bowers et al., 1991), which will now be discussed. The FAB was developed as a research tool to investigate the recognition and identification of non-verbal communicative signals of emotion. Specifically, it assesses the ability of individuals to recognise facial expression and emotional prosody. It was initially designed to identify specific emotion processing disturbances and more global perceptual difficulties that accompany neurological dysfunction in stroke patients.

Consistent with Darwin (1872) and others (Ekman, 1982; Izard, 1971), Bowers et al. (1991) propose that the emotion system is present early in life and remains relatively stable throughout the life span. They suggest that it is underpinned by an evolutionary substrate that allows us to decode non-verbal displays of other members of the same species, which is one of the fundamental aspects of social cognition. Evidence from the performance of 'normal' adults and

children on the FAB indicates that they have little difficulty identifying non-verbal signals of emotion.

Neither the FAB nor other neurocognitive measures of emotion have been utilised amongst a group of sex offenders, yet it appears to be relevant to the understanding of empathic skills. The ways in which a model of emotion processing, as measured by the FAB, could be applicable to the study of empathy deficits in sex offenders will now be considered.

Relevance of this Model of Emotion Processing in Sex Offenders

Both Marshall et al.'s (1995) and Bowers et al.'s (1991) models are conceivable ways of conceptualising emotional responses – the former is concerned with the empathic process, and the latter with non-verbal emotion recognition. Given the substantive evidence on the cortical organisation of emotion and the evidence for a non-verbal emotion processing lexicon, it seems reasonable to suppose that an individual may have deficits in certain, specific emotion processing skills, whilst others remain intact. Within the sex offender literature, this view is consistent with the emerging evidence for specific, rather than generalised empathy deficits. One possible application of Bowers et al.'s (1991) model to sex offenders is accounting for the finding that sex offenders may have specific deficits in emotion recognition skills, yet continue to have preserved emotional expression skills. The notions of modularity and disconnection may also account for how sex offenders may have deficits at one stage of the proposed empathy model, whilst other skills appear unaffected.

In view of the emerging evidence that sex offenders may have particular emotion recognition skills which are specific to their victims, one may speculate about the further division of the non-verbal facial lexicon into different categories

of people. Is there a sub-division within this lexicon which may account for the proposed victim-specific deficits? This would be an interesting hypothesis to investigate further.

What has been lacking from the research into emotion recognition skills amongst sex offenders is a comprehensive assessment of individuals' emotion processing skills to include not only the identification of emotions, but also the matching, discrimination and selection of both facial emotion and emotional prosody. In this respect, neurocognitive assessments of emotion processing, such as the FAB, may be a promising way of advancing current research on emotion recognition skills in sex offenders.

Summary

A modularity model of emotion processing was presented which postulates that there are distinct neural subsystems within the central nervous system. Within this, there appears to be dissociation between the units, such that there may be independent systems that are responsible for the production of emotion and the perception of emotion. Bowers et al. (1993) make a further sub-division, suggesting that there are two separate lexicons, one for faces and one for voices. Evidence from cognitive neuropsychology and cognitive neuroscience is cited as support. The Florida Affect Battery (Bowers et al., 1991) is discussed as a measure of emotion processing. It is suggested that emotion processing may account for the cognitive mechanisms involved in emotion recognition skills, the first stage of Marshall et al.'s (1995) model of empathy. Research questions to explore this link further are suggested.

The implications of the issues discussed in this review for clinical practice and research will now be discussed.

Clinical Implications

The empathy research considered in this review indicates the importance of increased specificity of the conceptualisation of empathy. This has implications for both the assessment and treatment of empathy in sex offenders, which will now be discussed.

Assessment

Evidence for the greater specificity of empathy deficits in sex offenders suggests that assessment measures should reflect this conceptual understanding. Historically, there has been a tacit assumption that offenders generally lacked empathy which until recently remained largely unchallenged. The inclusion of victim empathy training appears to have been motivated by the assumption that the crime itself is an indication of lack of empathy problems, without corroboration from an appropriate assessment. Contemporary research has begun to contest this assumption, such that it advocates the need for a component approach to assess specific empathic skills related to the offenders' specific victim group (e.g., Marshall et al., 1995). This refined approach may be useful in identifying individuals in greater need of therapeutic intervention appropriate to their idiosyncratic deficits, rather than being given a standardised treatment (Langevin et al., 1988). For example, comprehensive assessment would differentiate sadistic sex offenders, who constitute such a different group that they need specialised treatment from most sex offenders (Hanson & Scott, 1995; Marshall, 1999). Clarifying the conceptualisation and assessment of specific empathy deficits may promote more effective direction for and expansion of the various treatment components currently in place in sex offender treatment programmes (Marshall, 1999).

Treatment

In treatment terms, empathy enhancement is practised in 94% of all sex offender treatment programmes in North America (Knopp et al., 1992) and in the 25 UK prisons which run the Sex Offender Treatment Programme (Beech et al., 1998). The prevalence of this treatment component persists despite the poverty of evidence that sex offenders actually lack empathy, or that these treatments are effective. Instead, it is included because it is believed that if offenders have empathy for their victims, this will have an inhibitory effect upon their motivation to offend (Beech et al., 1998). The confusion regarding the generality of the supposed empathy deficit, previously discussed with reference to assessment issues, inevitably means that some programmes target generalised deficits, whilst others focus on victim-specific deficits. Indeed treatment options are varied, and the exact treatment goals are not always clear. Many treatment approaches discuss empathy as though it were a trait that is either absent or present, which mirrors the early research on the conceptualisation of empathy.

The current general approach focuses on the recognition of harm for the majority of offenders, although this is unlikely to be applicable to sadistic offenders (Marshall, 1999). An example of a victim empathy treatment component is provided by Marshall and colleagues who address skills at each stage of their model. One problem with their empathy treatment is that they do not adopt a components approach to the chronology of their treatment – victim empathy skills are likely to be addressed throughout the whole treatment programme. This *ad hoc* approach makes replication and evaluation difficult, since they do not appear to have a standardised treatment protocol. In general, cognitive-behavioural treatment

protocols do not systematically examine the impact of empathy training components, which is arguably a weakness (Geer et al., 2000).

One exception is Pithers (1994) who presented data regarding 20 convicted male sex offenders (10 child sex offenders and 10 rapists) who participated in a survivor empathy group as part of their treatment for sexual offending. As a preparatory phase for participation in the survivor empathy group, they had already received training on emotion recognition, on the basis that these skills had to be acquired before others could be learned. They were assessed using the IRI scale (Davis, 1983) in addition to other self-report measures which included cognitive distortions and rape myths. Child sex offenders were more empathic as measured by higher scores on the IRI, than scores obtained by rapists pre- and post-treatment. Both groups' IRI scores increased after treatment, possibly reflecting improvements in empathy. However, this finding may be partly attributable to a response bias, given the face validity of the IRI scale and the offenders' awareness of the purposes of treatment.

The inclusion of training in emotion recognition skills as in Pithers' (1994) programme may form the basis of not only further interventions for specific empathy deficits, but may also serve as a prerequisite to identifying sex offenders' own emotions. Understanding the links between emotions, thoughts and behaviours is integral to the cognitive-behavioural treatment approach of sex offenders and including this specific training component could lead to better treatment outcomes overall (Miner, 2000).

However, one concern regarding victim empathy training remains, namely that it simply equips the offenders with the knowledge of the right things to say. Marshall (1999) acknowledges the concerns behind this view, and refers to the

conceptualisation of empathy in his retort "it remains true that all we have after treatment is the offender's account of his recognition of harm and feelings of concern [but]...in any case, surely the acquisition of understanding (i.e., the cognitive component of empathy) is a necessary precursor to feeling distress over the harmful effects of behaviours so at the very least, we appear to have moved our offenders in the right direction" (p. 92).

Future Research

There are several issues and questions which remain unanswered in the empathy and sex offender research. In the first instance, further work needs to be done on the conceptualisation of empathy in sex offenders, addressing some of the issues regarding the specificity of deficits. These include focusing on deficits towards victims rather than a general deficit and on deficits in one or more sub-components of the empathic process, rather than in all. A related issue for research concerns the temporal stability of empathy and whether or not skills are affected by different mood states. This would have important implications for the clinical assessment and subsequent treatment of sex offenders, since they may only demonstrate deficits at the time of committing the offence. Following on from the notion of specificity of empathy deficits, it remains to be demonstrated that individuals can be trained in emotion recognition skills.

Much of the research cited here refers to child sex offenders. Given the heterogeneity of sex offenders it seems prudent to extend the research to investigate rapists and incarcerated vs. community samples, and to clarify the differential treatment needs of these types of offenders.

In terms of more general treatment issues, the long-term maintenance of treatment effects remains unexplored. The ultimate test of effectiveness of any treatment is the extent to which it reduces further offending (Beech et al., 1998). Recidivism studies should take place regularly and in view of the inadequacy of reconviction data, information may be gathered by taking into account 'charges not proceeded with' by local authorities, and information from Social Service records which contain suspicions or allegations of sexual abuse. Further research on treatment is warranted because, although advances have been made in the understanding of empathy deficits, what needs to be addressed in treatment remains uncertain (Marshall, 1999).

As for conceptual models, Marshall et al.'s (1995) model of empathy provides a framework to develop explicit hypotheses and empirical tests of predictions concerning differences between offenders and non-offenders. The value of their staged model is that it generates heuristics to guide research, which demands experimental testing of concepts and hypotheses. One obvious limitation of their model is that it requires evaluation to investigate the extent to which it can account for empathy in sex offenders. A further limitation of their model is its tendency to reduce the concept of empathy down into discrete stages, during which the whole picture, or gestalt, may be overlooked (Geer et al., 2000).

Given that empathy falls under the category of emotion, it seems appropriate to refer to developments in emotion processing to further understand the empathic process. The work of Fodor, Schacter and Bowers et al. deal with the modularity of emotion and the independence of not only the perception and production of emotion, but, more specifically, the proposed existence of separate lexicons for decoding the emotional meaning from non-verbal facial and prosody

cues. This approach may be useful for providing hypotheses regarding emotion processing deficits in sex offenders, and also experimental paradigms to test them.

If further research does reveal genuine deficits in emotion processing skills, it would be interesting to investigate how these deficits may have developed throughout the individual's life, in order to determine risk factors. What is apparent from the research reviewed here is that it is aimed at intervention, rather than prevention. There appear to be no straightforward solutions to the prevention of child sexual abuse or rape, but future research may help to identify offenders at least after their first offence, if not before.

It is not sufficient to limit research to the first stage of the Marshall et al. (1995) model, since the ability to recognise other people's feelings (stage 1) and the responses made to these feelings (stage 4) are distinct. Further research may reveal that sex offenders are relatively less impaired on emotion recognition skills, but they may have difficulties at subsequent stages of the model, or indeed on skills which the model does not encapsulate. Relative deficits at different stages of the model may be different for different types of sex offender. For example, sadistic offenders may accurately perceive the suffering of others, but be either indifferent to or attracted to their victim's fear and pain (Hanson & Scott, 1995).

Finally, more research is required with UK populations, since the overwhelming majority of research has been conducted with North American and New Zealand populations.

Discussion

The issue of sexual offending is a complex one. The research concerning empathy in sex offenders has revealed inconsistent findings which are attributable not only

to different conceptual and methodological research approaches, but also to the wide heterogeneity of offenders, which makes generalisation of results with this population difficult. What is clear is that there remains uncertainty regarding the putative empathic deficits amongst sex offenders.

One striking issue throughout this research has been the determined effort of researchers to reveal some type of deficit in sex offenders' empathy skills. Almost without exception, they have adopted an *a priori* assumption that offenders have some kind of empathic deficit, and researchers have set about discovering what this might be. One wonders whether it may be potentially more useful to investigate what sex offenders are able to do, rather than resolutely searching for what they cannot do. Also, it is possible that sex offenders do have empathic skills, but that in certain circumstances or in relation to certain people, they do not use them.

Research so far has reflected the public and media stance that sex offenders are 'different' in some fundamental way to the 'normal' population. The issue of sexual offending is indeed an emotive, political one and the government is under increasing public pressure to deal effectively with sex offenders, as in the recent 'naming and shaming' campaign following the sexual murder of Sarah Payne (August 2000). The Home Office is investing substantial amounts of money into Sex Offender Treatment Programmes run in the Prison Service. One emerging issue from this review of the literature is that unless empathy deficits can be reliably demonstrated amongst sex offenders, then there would appear to be no point in including empathy training components in treatment programmes. Less controversially, this review indicates that training should focus on specific components of empathy or on potential victims, or to reduce the disinhibitory

influences that may temporarily reduce empathy (e.g., alcohol). Clearly these issues have implications for both research and the delivery of services.

Essentially, victim empathy training is only one component of the cognitive-behavioural treatment package for sexual offending. It is acknowledged that offending has a complex and multi-faceted aetiology, and victim empathy may be only one piece of this complex puzzle. Once future research clarifies the nature and extent of empathic skills in sex offenders, then victim empathy training may be well-placed within treatment programmes in conjunction with other treatment components that have also been assessed for their utility and efficacy.

Conclusions

Marshall (1999) maintains that a consensual view of this problem is likely to emerge in the near future. Once the conceptualisation of empathy in sex offenders is clarified, appropriate measures should follow, as should effective and efficient intervention methods. It is encouraging that although the recognised need for assessment and treatment targeting empathy deficits has not changed dramatically in the last decade, the level of understanding about why it is important has changed, as well as an added specificity to the focus of the associated interventions (Bumby, 2000).

What is needed to achieve this is the development of empirically validated theories to continue to facilitate the targeting of victim and offence-specific empathy deficits. The initial discrepancy between the empirical literature and clinical lore concerning victim empathy deficits in sexual offenders appears to be resolving over time, which may be clarified further by examining both the nature and extent of specific empathic deficits and towards potential victims.

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An Emotion Processing Approach to Victim Empathy in Sex Offenders

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An Emotion Processing Approach to Victim Empathy in Sex Offenders

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Objectives. Emotion recognition in sex offenders is thought to be a pivotal stage in the empathic process, which may be important in the aetiology and maintenance of sexual offending. This research investigated non-verbal emotion recognition from a neurocognitive emotion processing perspective.

Design. An independent measures design was used, comparing sex offenders' and a comparison group's scores on a measure of emotion processing (The Florida Affect Battery, Bowers *et al.*, 1991).

Methods. Two matched groups of 17 convicted sex offenders and 20 community males undertook a series of tasks involving face and prosody discrimination problems on both photographs and audio-tape stimuli.

Results. There were no significant differences between the two groups on most emotion tasks. There was a non-significant trend for sex offenders to be less accurate on tasks of labelling facial emotion, which was consistent with previous research. There was also a non-significant trend for sex offenders to be less accurate on tasks of labelling emotional tone of voice.

Conclusions. These results indicate that sex offenders may have problems with some specific emotion processing, rather than global deficits. It is suggested that future research explore victim-specific and state-dependent aspects of emotion processing and to consider how this may improve intervention, and, ultimately, the prevention of sexual offending.

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* Requests for reprints

Introduction

There is a widely-held belief that sex offenders lack empathy, which is considered to be integral to the development and subsequent maintenance of their sexual offending (Thornton, Todd & Thornton, 1996). The argument follows that if only they developed empathy skills, they would understand how their victim feels, and this would inhibit sexual offending (Bumby, 2000). This is why empathy training is included in 94% of sex offender treatment programmes in North America (Knopp, Freeman-Longo & Stevenson, 1992) and in all the Sex Offender Treatment Programmes run in UK prisons (Beech, Fisher & Beckett, 1998). Unfortunately, the research for these putative empathy deficits is not as strong as the enthusiasm with which this view has been implemented into clinical practice. Indeed evidence that sex offenders lack empathy is equivocal (Marshall, 1999).

The concept of empathy has been the focus of psychological research since the early 1900s (Hornblow, 1980). Definitions of empathy have included the vicarious affective response to another person's feelings, and the ability to put oneself in the other person's position, establish rapport and anticipate the other's reactions, feelings and behaviours (Hoffman, 1977; Kerr, 1954). The concept has been studied within diverse theoretical frameworks, which is reflected in the often disparate conceptualisations of the term. The historical developments of the study of empathy will only be briefly considered here, and the interested reader is referred to Marshall (1999) for an in-depth review.

The three most frequently used measures of empathy are: the Empathy Scale (Hogan, 1969), the Emotional Empathy Scale (Mehrabian & Epstein, 1972) and the Interpersonal Reactivity Index (IRI; Davis, 1983). The IRI scale adopts a multi-dimensional approach to empathy by measuring four proposed factors. The

other two measures conceptualise empathy as either a cognitive or affective skill (Hogan, 1969, and Mehrabian & Epstein, 1972, respectively). All three scales are based upon a view of empathy that is trait-like, maintaining that people are either generally empathic across situations, or they are deficient. What appears to be lacking is any regard for situational or individual variables that may affect an individual's empathic abilities (Epstein & O'Brien, 1985). Furthermore, the psychometric properties of the first two scales are so poor that further research with them has been advised against (Cross & Sharpley, 1982; Langevin, Wright & Handy, 1988), whilst much of the psychometric data on the IRI has been generated by Davis himself.

Research regarding empathy in sex offenders has typically utilised these measures, thus adopting a trait-like view of this concept. Two studies using the Emotional Empathy Scale found no significant differences between groups of sex offenders compared to non-sexual offenders (Hoppe & Singer, 1976; Langevin *et al.*, 1988). A study using the IRI scale examined generalised empathy amongst incarcerated child sex offenders, and did not find any significant differences between the offenders and normative data from community controls (Marshall, Jones, Hudson & McDonald, 1993). However, one study found that rapists reported themselves to be less empathic on Hogan's (1969) scale, but not the Emotional Empathy Scale (Rice, Chaplin, Harris & Coutts, 1994). Although the authors concluded that rapists may not show an empathic awareness of the victim's plight, this is based on a small sample size with measures which have been found to be psychometrically weak.

On the basis of these few studies, sex offenders did not appear to be significantly deficient on empathic skills, compared to non-offenders. Following

this research, Marshall *et al.* (1993) speculated about the usefulness of investigating global empathy traits. They recommended that future research should focus on specific skill deficits and investigate victim-specific deficits.

The reasons for these inconsistent results have included unclear conceptualisations of the construct of empathy, and measurement scales which lack specificity and are psychometrically unacceptable (Marshall, Hudson, Jones & Fernandez, 1995). Furthermore, in studies that appeared to find relative empathic deficits among sex offenders, the statistically significant differences were not clinically significant, and researchers often failed to report that sex offenders' average scores were actually within 'normal' limits (Bumby, 2000).

In addition to the clinical observation that these men do not appear to recognise the harm they cause their victims, the lessons learned from previous studies encouraged researchers to refine their approach, and subsequently, a reconceptualisation of empathy was proposed (Marshall *et al.*, 1995).

Approaching empathy from a different standpoint, and building on the work that Davis (1980, 1983) had begun with his multi-dimensional approach, Marshall *et al.* (1995) developed their multi-component staged model of empathy. According to this model, the expression of empathy involves four sequential processes, namely: (1) emotion recognition, (2) perspective-taking, (3) emotion replication, and (4) response decision. Around the same time, a similar model incorporating the same processes within three stages was proposed by Hanson and Scott (1995). Marshall *et al.*'s (1995) model will be briefly reviewed since it has been the most cited.

They argue that emotion recognition, that is, discerning the emotional state of another person, is pivotal to the empathic process since it is a prerequisite to

subsequent stages. In other words, in order to be empathic towards another person, one must first be able to recognise how they are feeling. Stage two involves placing oneself in another person's position and experiencing the situation from their point of view. The third stage, emotion replication, involves experiencing the same emotion as the other person. Finally, response decision involves deciding how to act based on the information gathered from the previous stages of the empathic process. The authors propose that a sex offender may be deficient at any or all of these stages.

Marshall *et al.* (1995) suggest that empathy in sex offenders be investigated at each stage of the model in an attempt to identify specific, rather than global deficits. Despite the appeal of their model, emotion recognition remains the only stage which has been empirically examined. This may be due to both its proposed importance in the empathic process, and also the fact that it has an extensive literature from research within social and cross-cultural psychology.

The earliest systematic account came from Charles Darwin (1872) who wrote about the judgement of emotional states on the basis of facial expressions. He proposed that the emotion system is underpinned by an evolutionary substrate and that facial expressions are universal within a species. More recent work has reliably demonstrated that distinctive universal facial expressions exist for anger, fear, disgust, sadness and enjoyment (Ekman, 1982, 1993; Izard, 1971, 1991). Evidence that people can judge faces accurately indicates that there is a consistent link between facial expression and emotion. Relating facial expression to empathy, Miller and Eisenberg (1988) found that empathic individuals were more skilled at recognising emotional states of others than non-empathic individuals.

Research that has explicitly investigated emotion recognition amongst sex offenders has provided preliminary support for the hypothesis that they do have a deficit. In a study using slides of males and females depicting various facial expressions, imprisoned sex offenders were found to be less accurate compared to non-sexual offenders (Hudson, Marshall, Wales, McDonald, Bakker & McLean, 1993). The same authors report a second study to investigate the extent to which non-verbal emotion recognition skills were specifically related to the offence types of sex offenders. Using line drawings of adults and children from the Emotional Expression subtest of the Test of Social Intelligence (O'Sullivan & Guilford, 1976), community child sex offenders were found to be less accurate than community controls in identifying both adult and child emotions. However, the sex offenders were equally accurate on the child and adult stimuli, prompting the authors to conclude that child sex offenders have general problems, not specific to their target victim group.

A third study investigated empathy amongst a group of self-reported sexually aggressive males using the Facial Affect Recognition Task which involved identifying emotions depicted on a series of photographs of men and women (Lisak & Ivan, 1995). Sexually aggressive males were less accurate than controls in identifying male facial expressions, but there were no group differences for female facial expressions. In conjunction with scores on the Emotional Empathy Scale (Mehrabian & Epstein, 1972), the researchers suggested that sexually aggressive men's lack of empathy was not based on an inability to read accurately the other person's facial expression.

The importance of emotion recognition skills in social situations has also been investigated from a social processing perspective. Research using videotaped

interactions of heterosexual couples as stimuli has found that self-reported sexually aggressive men are relatively incompetent in decoding women's interpersonal cues (Lipton, McDonel & McFall, 1987; Malamuth & Brown, 1994; McDonel & McFall, 1991). Their findings suggest that specific deficits in decoding non-verbal cues are useful predictors of sexual aggression.

The evidence from these studies suggests that sex offenders in general may have global non-verbal emotion recognition deficits. Preliminary findings suggest that child sex offenders' deficits may be global and not specific to their target group (i.e., children). Given that the McFall *et al.* studies did not compare competence of decoding women's with children's interpersonal cues, it is not clear whether sexually aggressive men (who score highly on rape-supportive attitudes) have global or specific emotion recognition deficits. The small sample size of these studies and the use of analogue populations inevitably limit the generalisability of the results, but they do nevertheless warrant further investigation.

One way of investigating non-verbal emotion recognition skills further would be to consider a model of emotion processing. In this context, emotion processing may be defined as the 'cognitive processes involved in the ability to comprehend the emotional state of others using cues provided in facial expression or the intonation of speech (prosody), and/or communicate one's own internal emotional state via the same mechanisms (facial expression, vocal prosody)' (Cadieux & Greve, 1997, p. 411). This model may shed light on the cognitive mechanisms involved in non-verbal emotion recognition skills, which is considered to be the most pivotal stage in Marshall *et al.*'s (1995) model. This model of emotion processing is based primarily on the notion of 'modularity', which argues that the central nervous system is composed of distinct neural

subsystems which are relatively independent of one another (Fodor, 1985). These units can be selectively disconnected such that one skill may be impaired whilst other similar ones remain intact (Schacter, 1990). In terms of emotion processing, this may mean that the systems involved in the perception of emotion may be impaired relative to those involved in the production of emotion (Bowers, Bauer & Heilman, 1993). Applied to sex offenders, the idea of domain-specific subsystems may account for how they can express emotion, but be impaired on their understanding of other people's feelings. More specifically, Bowers *et al.* (1993) suggest that there may be two separate non-verbal lexicons for the understanding of emotion, one for faces and one for voices (prosody). This means that an individual may not be able to understand emotion from someone's facial expression, but be able to do so from their tone of voice, or vice versa. The Florida Affect Battery (Bowers, Blonder & Heilman, 1991) has been developed to assess ability to recognise facial expression and emotional prosody.

This model of emotion processing has not been investigated amongst a group of sex offenders, but there is substantive supporting evidence from studies of patients with schizophrenia (Shaw, Dong, Lim, Faustman, Pouget & Alpert, 1999), aphasia (Barrett, Crucian, Raymer & Heilman, 1999), frontal lobe damage (Hornak, Rolls & Wade, 1996), Parkinson's Disease (Breitenstein, Daum & Ackermann, 1998) and acquired psychopathy (Blair & Cipolotti, 2000).

The aim of the present study was to investigate emotion processing amongst a group of British men who had been convicted of a sexual offence (according to the Sex Offenders Act 1997) and were serving their Probation Order at a local Probation Service. Based on previous preliminary research, it was predicted that sex offenders would have a general deficit in their emotion

processing skills. Accordingly, this study used the Florida Affect Battery (Bowers *et al.*, 1991) to assess ability to understand the emotional state of others, using cues provided by facial expression or intonation of speech. Participants were also interviewed regarding their educational and social histories, as research suggests that social isolation and an inability to form relationships are salient factors in sex offenders' developmental histories (Fisher & Howells, 1993), which may contribute, through a paucity of learning opportunities, to a deficit in understanding other people's non-verbal emotions.

This study was approved by the University Psychology Ethics Committee (Appendix C).

Aims and Hypotheses

The aim of the current research was to investigate whether or not there would be differences in emotion processing skills between sex offenders and a comparison group, as measured by the Florida Affect Battery (Bowers *et al.*, 1991). Specifically, it was hypothesised that:

1. The sex offenders would score significantly lower on the emotional components of facial subtests compared to a comparison group.
2. The sex offenders would score significantly lower on the emotional components of prosody subtests compared to a comparison group.
3. The sex offenders would score significantly lower on the emotional components of the cross-modal subtests compared to a comparison group.

Method

Participants

The sex offender group were 17 men aged 18-61 years all of whom had been convicted of a sexual offence under the Sex Offenders Act 1997. They had all been granted a Probation Order and had either finished, were about to start or were currently attending the Sex Offender Treatment Programme run by the Avon Probation Service. Under the Act, three of the participants had been convicted of rape (section 1), two convicted of indecent assault on a woman (section 14), nine convicted of indecent assault on a girl under 16 (section 16), three convicted of assault with intent to commit buggery (section 16) and two convicted of possession of indecent photographs of children. Two offenders had been convicted of two different offences.

None of these offenders had a diagnosed mental illness, nor were they taking psychiatric medication, and they had been assessed as sufficiently low risk by their Probation Officers to being interviewed individually by a female researcher.

Thirty-nine offenders who met these inclusion criteria were approached and invited to participate in this research. Eighteen of these either declined to participate or subsequently failed to attend assessment appointments. Of the 21 who consented, two participants were excluded: one because he withdrew his consent during the assessment, and the other because he was an outlier on qualitative and quantitative indices, since he had a perseverative clinical presentation and scored 2 SD below the mean on several subtests. The two oldest participants in the sex offender group were subsequently eliminated in order to

match the offender and comparison groups on age. Therefore data were analysed on 17 offenders.

Twenty males recruited from the community formed the comparison group. All participants were living in the community and were of white European origin.

Measures

Semi-Structured Interview

Participants were interviewed regarding their school and work history, relationship history and alcohol and drug use (Appendix D). The purpose of this interview was three-fold:

1. To build rapport with the participants (many of whom had expressed suspicions regarding the nature of the research).
2. To explore their social experiences and relationships.
3. To assess whether there were any factors which may compound their performance on the experimental tasks.

The Test of Non-Verbal Intelligence (TONI-3)

The TONI-3 (Brown, Sherbenou & Johnsen, 1997) is a validated, norm-referenced measure of intelligence, aptitude, abstract reasoning and problem-solving. It is completely non-verbal and provides a full scale IQ for each individual. It has 50 pictorial items arranged in order, from easy to difficult, with five practice items. Instructions are conveyed to participants using non-verbal gestures, and they respond by pointing to the appropriate stimulus.

The Florida Affect Battery (FAB)

The FAB (Bowers *et al.*, 1991) was designed to assess the perception of non-verbal emotion processing, by investigating the level of recognition and identification of facial expressions and prosody (intonation of voice). It is based on a

neurocognitive model, which treats emotional processing as resulting from the operation of different mental modules. Four different emotions are used across the subtests, namely, happiness, sadness, anger, and fear, with neutral as a control condition. The battery consists of 10 different subtests (5 facial, 3 prosodic and 2 cross-modal), which are outlined below.

The FAB has been validated with both 'normal' individuals and individuals with Alzheimer's Disease in the United States. It has been demonstrated to have high test-retest reliability (.89 to .97) and factor analytic studies have revealed the presence of two independent factors, one corresponding to a visual/facial factor and the other to a general prosody factor.

Every subtest is preceded by several practice items to ensure the task instructions have been understood.

1. Facial Affect Subtests

The stimuli used in constructing the facial affect tasks include photographs of four different women, each displaying one of five different emotions. The black and white photographs selected for the battery had been rated by 50 college students and 20 normal older adults. All these face stimuli exceeded greater than 80% agreement among the raters. Of the original 33 actors and actresses, only women's faces met this criterion which is why the face stimuli in the FAB battery are all women. These facial stimuli are presented either individually or in vertical alignments, depending on the subtest. Twenty trials are given in each of the facial subtests.

- *Subtest 1: Facial identity discrimination* Participants are shown pairs of unfamiliar faces and have to determine whether the faces are the same or a different person. The stimuli are photographs of women, each with a neutral

facial expression. Their hair is covered to reduce non-facial cues for identification. Half the trials consist of two photographs of the same person, and the remaining trials are of different people. This task serves as a perceptual control condition for the facial affect tasks.

- *Subtest 2: Facial affect discrimination* Participants are shown 20 pairs of faces and have to determine whether the photographs depict the same or different emotional expressions. On half the trials the two women display the same facial emotional expression, and on the remaining ten trials they display different expressions.
- *Subtest 3: Facial affect naming* In this task, participants are required to verbally label facial expressions. They are shown individual faces and are asked to name the emotion depicted by each particular face (i.e., happy, sad, angry, frightened, or neutral).
- *Subtest 4: Facial affect selection* This task assesses the ability to select target facial expressions named by the examiner. Participants are shown five photographs of different women on each trial, each expressing a different facial emotional expression. They are asked to point to the face which corresponds to the emotion named by the examiner (e.g., 'point to the sad face').
- *Subtest 5: Facial affect matching* Participants are asked to match the photograph of an emotional face to another face with the same emotional expression. They are shown a target face on one card and on the facing card are five women, each depicting a different emotional expression. Participants are requested to match the target expression with its counterpart on the multiple response page.

2. *Prosody Subtests*

These are designed to complement the facial perception tasks. The first three prosody subtests (6, 7 & 8A) consist of a set of semantically neutral sentences (e.g., 'the chair is made of wood') spoken in various non-emotional or emotional tones of voice. The fourth prosody subtest (8B) involves sentences which are emotionally toned but whose semantic content either conflicts or complements the prosodic message.

- *Subtest 6: Non-emotional prosody discrimination* This task assesses the ability to process prosody and it serves as a perceptual control for the affective prosody tasks. Participants listen to 16 pairs of neutral sentences. They are asked to say whether both sentences are said in the same tone of voice or different tone of voice. They are told that the speaker may sound like she is asking a question or making a statement. If both sentences in each pair sound like questions, they should answer 'the same'. If one sounds like a question and the other a statement, they should answer 'different'. On half the trials, both sentences are the same, and on the remaining trials, the two sentences are different.
- *Subtest 7: Emotional prosody discrimination* Participants are presented with 20 semantically neutral sentences, half spoken in the same and half spoken in a different emotional tone of voice. They have to judge whether the affective prosody is the same or different in both sentences.
- *Subtest 8a: Name the emotional prosody* This task assesses the ability to identify emotions based on affective prosody. Participants listen to semantically neutral sentences spoken in one of the five emotional tones of voice. They are then asked to name the emotional prosody of each item from

the list of five emotions. There are 20 trials, with four repetitions of each of the five emotions.

- *Subtest 8b: Conflicting emotional prosody* Participants listen to emotionally toned sentences whose semantic content may differ (i.e., conflict) or match the prosodic message. Thirty-six sentences are given and participants judge the emotional tone of voice of the speaker in each. In half the trials, the semantic content and prosody conflict (e.g., 'all the puppies are dead' said in a happy tone of voice), so that the participant must disregard what the message says. In the remaining sentences, the semantic content and prosody are congruent (e.g., 'all the puppies are dead' said in a sad tone of voice).

3. *Cross-modal Facial-Prosody Subtests*

In these tasks, participants are asked to match the emotion conveyed by facial expression with a corresponding prosodic stimulus, or vice versa. Each task consists of 20 trials.

- *Subtest 9: Match emotional prosody to an emotional face* Participants are shown a card with three photographs of the same woman, who is expressing three different facial expressions. At the same time, they listen to a pre-recorded sentence spoken in an emotional tone of voice by a female speaker. They are asked to point to the emotional face that corresponds to the emotional tone of voice of the speaker.
- *Subtest 10: Match emotional face to the emotional prosody* Participants are shown a photograph of an emotional face and simultaneously listen to three pre-recorded sentences, each spoken in a different emotional tone of voice. They are asked to indicate which sentence best corresponds to the facial expression.

Procedures

The sex offenders were approached in writing by their Probation Officer, given a thorough description of the study and asked to volunteer (Appendix E). They were then written to by the author (Appendix F) and offered an appointment, unless they had already notified their Probation Officer that they did not wish to participate. All the participants in the comparison group were recruited via a flyer posted at local employers' offices, and they were given a parallel version of the information letter (Appendix G). All assessments were carried out by the author, either at the Probation Service premises, for the offenders, or their workplace, for the comparison group.

The offenders were told that the study concerned how people who have committed similar offences recognise feelings in faces and voices, and the comparison group was told it related to how different people recognise feelings in faces and voices. All participants read the information sheet prior to the assessment and all signed a consent form (Appendices H and I). Everyone was given the choice about whether they completed the TONI-3, the FAB or the interview first, since the order of presentation was not considered likely to affect participants' responses. The researcher screened for any eye-sight or hearing difficulties prior to starting the assessment, and no-one appeared to have any problem understanding visual or auditory information. All participants were then assessed individually by the author using standardised instructions of the measures.

Following the assessment, both the offender and comparison groups were given the opportunity to have their questions and concerns clarified by the researcher. The comparison group was debriefed fully immediately after the assessment and provided with a written summary of the findings of the study at a

later date. However, the explicit aims and findings of the study were not made available to the offenders, since research suggests that they may use such information to justify either past or future offending (Abel, Gore, Holland, Camp, Becker & Rathner, 1989).

Results

Data Analysis

Data were analysed using SPSS/PC. The data were examined for normality, and where they were skewed non-parametric statistical tests were used (chi-square test of association and Mann-Whitney test). As recommended by Siegal (1956), the chi-square test of association was only computed where the expected frequencies in each cell were greater than or equal to five. Where the data met the assumptions of normality and homogeneity of variance, the use of parametric statistics (independent measures t-tests) was considered justified. FAB scores were expressed as 'percentage correct scores'. An alpha level of .05 was employed, adjusted, where relevant, for multiple tests using Bonferroni's method as described by Howell (1999).

Group characteristics

Group characteristics are shown in Table 1. The offenders had a mean age of 46.0 years (range 18-61, SD 13.4) and the comparison group 40.1 years (range 22-66, SD 12.4). Both groups' IQ scores fell within the normal range (offenders' mean 89.3, SD 8.9, range 77-106; comparison group's mean 92.0, SD 8.2, range 81-112). The offenders had a mean of 10.5 years of education (range 9-12, SD 0.9) and the comparison group 11.2 years (range 10-16, SD 1.4). There were no significant

differences between the two groups on either age, IQ scores or years of education, so the groups were considered to be well matched on these three variables.

Between the two groups there appeared to be significant social disparity. The offenders reported being victims of school bullying significantly more than the comparison group, and were more likely to be divorced than the comparison group. Anecdotally, eleven of the offenders also reported that they had been socially isolated throughout their lives, describing themselves as either loners, or the kind of person who 'always kept myself to myself'.

Eight offenders were employed or in full-time study at the time of assessment, two were retired and seven unemployed. Unsurprisingly, all participants in the comparison group were employed, since employers were the source of recruitment for this research. Eleven of the offenders and nine of the comparison group had children, although a third of the offenders no longer had contact with their children, usually as a consequence of their offending.

Four of the offenders reported having a history of recreational drug use, compared to eight of the comparison group. One offender had been addicted to heroin. All participants reported drinking moderate amounts of alcohol, whilst two offenders reported complete abstinence. Around the time of their offending, five offenders recalled a history of alcohol misuse. Seven of the offenders had received psychiatric help for reactive clinical depression and/or anxiety following their offending and had, in the main, been prescribed anti-depressant medication. There was no significant difference in reported history of head injury between the two groups.

Insert Table 1 here

Inferential Statistics for FAB Scores

Perceptual Control Subtests

First, a manipulation check was made to test whether the groups were equivalent in their perceptual skills, as measured by subtests one and six. There were no significant differences between the two groups on those tasks assessing facial or prosody perceptual skills which were unrelated to emotion.

Facial Affect Subtests

Although Bowers *et al.* (1991) suggest that the facial and prosody subtests measure two independent factors, a correlation matrix derived from these data indicated correlations which were too low to provide evidence that any of the subtests form groups with others. Therefore, each subtest has been analysed independently of the others.

For these remaining subtests, a Bonferroni correction was applied for multiple comparisons, and the adjusted p level was .005.

It will be recalled that sex offenders were expected to score significantly lower on the emotional components of facial subtests compared to the comparison group. As Table 2 shows sex offenders were generally accurate at understanding another person's emotion from their facial expression. Using the independent measures t-test, there were no significant differences between offender and comparison groups on discriminating facial affect. Furthermore, no significant differences were found between offenders and the comparison group on tasks of selecting or matching facial affect. However, there was some evidence that offenders had difficulty on tasks where they were asked to identify emotional expressions, reflected by non-significant trends for differences between the groups

on naming facial affect. Overall, there were no significant differences between the two groups on total facial affect scores, so the hypothesis that sex offenders would have deficits on emotion processing as measured by scores on facial expression subtests, was not supported.

Emotional Prosody Subtests

It was predicted that the sex offenders would also score significantly lower on the emotional components of prosody subtests compared to the comparison group. Table 2 shows that sex offenders do not have general problems understanding another person's emotional state from their emotional tone of voice. There were no significant differences between the two groups on either discriminating or naming emotional prosody. Neither were there significant differences on tasks where participants were asked to ignore the meaning of a sentence and to listen to the incongruent emotional tone of the speaker. However, relative to the comparison group, the offenders did appear to have some difficulty identifying congruent emotional tones of voice when these sentences were embedded amongst the incongruent emotional tones of voice items. There were non-significant trends for differences between the two groups on naming congruent emotional prosody. Overall, there were no significant differences between the two groups on total emotional prosody scores, so the hypothesis that sex offenders would have deficits on emotion processing as measured by scores on emotional prosody subtests, was not supported.

Cross-Modal Subtests

Sex offenders were predicted to score significantly lower on the emotional components of cross-modal subtests compared to the comparison group. Results in Table 2 show that they had no problems on tasks of either matching an emotional utterance to a facial expression, or vice versa. Overall, there were no significant differences between the two groups on total cross-modal scores, so the hypothesis that sex offenders would have deficits on emotion processing as measured by scores on cross-modal subtests, was not supported.[1]

Insert Table 2 here

Post-Hoc Analyses of the Different Emotions

To examine whether the offenders had more difficulty discriminating particular emotions, a repeated measures ANOVA was used. There were no significant differences between the sex offender and comparison groups in terms of accuracy on any of the five emotions. Interestingly, relative to the other emotions, all participants had difficulty with identifying 'fear' across the subtests.

Discussion

The results showed that sex offenders were generally no less accurate in understanding feelings from faces and voices compared to the comparison group. In other words, they were generally able to judge accurately a person's feelings from their facial expression and tone of voice. This suggests that there is no

[1] Parametric analyses were carried out on all these data after they had been corrected for skewness. As with the non-parametric tests, no significant group differences were found.

relationship between a deficit in the identification of non-verbal emotion and a history of sexual offending.

However, there was a non-significant tendency for sex offenders to be less accurate with labelling both facial expressions and emotional tone of voice. This first trend is consistent with previous research which has generally found emotion recognition deficits in incarcerated sex offenders, community child sex offenders and self-reported sexually aggressive men (Hudson *et al.*, 1993; Lipton *et al.*, 1997; Malamuth & Brown, 1994; McDonel & McFall, 1991). The second non-significant trend was unexpected and may have been an anomaly. Alternatively, it is possible that as task demands increase and become more complex, as they do on this subtest, sex offenders may have more difficulty identifying emotion from tone of voice. This may mean that when faced with the demands of an offending situation, in which there may be many complex cues, sex offenders may have more difficulty understanding their victim's emotional state from their tone of voice. This particular skill has not been assessed before amongst a group of sex offenders, and may be useful to consider in the future.

Interestingly, both groups had more difficulty judging 'frightened' than any other emotion, which is consistent with previous research (Ekman, 1982) and suggests that sex offenders may have no more difficulty identifying this emotion than the comparison group.

A significant number of sex offenders reported an early history of social relationship difficulties which appeared to have continued into adulthood. This was evidenced by a higher incidence of divorce and estrangement from their children, although these difficulties at least in part may result from their being known to be sex offenders. Loneliness, lack of intimacy and poor social relationships have been

consistently found to be important and distinctive features in all groups of sex offenders (Seidman, Marshall, Hudson & Robertson, 1994), and these factors are considered to be critical in the development of sexual offending (Marshall, 1999). Although these factors may conceivably contribute to an impoverished ability to understand other people's feelings, this was not found here. Indeed the direction of the relationship between social relationship deficits and sexual offending is not clear, although it is still considered significant for some offenders in the aetiology of their offending (Howells & Fisher, 1993).

Overall, these emotion processing findings are not consistent with other studies which have specifically investigated emotion processing in sex offenders. This may be attributable to two factors: differences in the measures of emotion processing used and the variability in the types of offender groups. As discussed above, the present study used a more comprehensive measure of emotion processing and only found non-significant trends on tasks which had been used in previous research, namely identifying facial emotion. It is possible that sex offenders do not have problems with other emotion processing skills, such as discriminating emotion or matching emotion. Alternatively, these non-significant findings may be accounted for by some of the limitations of the FAB.

Some of the participants' feedback following the assessment highlighted some of the limitations of the FAB as a research tool. Comments such as 'you begin to remember the faces and you remember which emotion each face shows', indicates that memory plays a substantial role in test performance. Also, 'If I could speak to her I could clarify what she was feeling - it is a bit ambiguous just looking at the photo' highlights the importance of contextual information in real-life situations (Schneider, Hastorf & Ellsworth, 1979), and clearly the FAB is lacking

in this regard. It could be argued that the use of adult female stimuli may have masked victim-specific deficits in child sex offenders, which may have been found using child stimuli. Furthermore, the ceiling effect operating on many of the FAB subtests indicates that the majority of the participants performed fairly well, so this task may have been too easy to detect any real group differences in emotion processing. Low correlations derived from the correlation matrix of the subtests call into question some of the psychometric assumptions of the FAB. Nevertheless, given that many offenders are motivated to deny their sexual offences and to deny any attitudes that might make them appear likely to commit sexual offences, the FAB circumvented this presentational bias by using a measure of skill that avoided direct sexually-related stimuli, so that participants were less likely to figure out the hypotheses being tested.

The second factor that may account for the generally discrepant results of this study compared with previous studies is the use of disparate groups of sex offenders. Hudson *et al.* (1993) studied a mixed group of incarcerated rapists and child sex offenders from New Zealand in their first study, and then a community sample of child sex offenders in their second study. McDonel and colleagues sampled American male undergraduates. These groups may be so contrasting as to make comparisons difficult with the present study, which used a British heterogeneous community sample. Indeed incarcerated offenders are more likely to have committed violent or sadistic offences, compared to offenders in the community, which makes the comparison of studies with other types of sex offenders difficult (Hanson & Scott, 1995).

In addition to the limitations of the FAB, the following factors need to be taken into account when considering the present findings. Firstly, the sex offenders

who agreed to participate in the study represented a very small, heterogeneous group. Their offence histories ranged in severity from rape to possession of indecent photographs, which raises questions about the appropriateness of grouping them under the generic term 'sex offender'. By their nature sex offenders are a diverse group, so generalising from such a small group may be problematic (Maguth Nezu, 2000). Secondly, the sample size may have been too small to detect group differences, due to the low statistical power. One of the difficulties of recruiting more offenders at the time was related to the public campaign to 'name and shame' sex offenders, following the sexual murder of a young girl, Sarah Payne. In this study, less than half of all potential sex offenders either did not meet the inclusion criteria or declined to participate. A large proportion of these had committed rape, a group of offenders which have been found previously to be difficult to engage in treatment (Beech *et al.*, 1998). Furthermore, experimenter variables may have affected the results, given that the female researcher was in the target group for some of the offenders, which may have influenced their performance in some way.

Future research may address some of the limitations of the present study, paying particular attention to increasing the sample size and separating out different groups of sex offenders, rather than treating them as homogenous (Fisher & Howells, 1993). It is likely that different offence types serve particular functions for the individual, so different types of offenders may have different empathy deficits, which would be worthy of further research. Even within the specific empathic skill of emotion processing, these findings suggest that increasingly specific skills would benefit from further investigation. In addition, it would be useful to investigate empathy deficits which are specific to the victim, which has

already begun (e.g., Fernandez, Marshall, Lightbody, & O'Sullivan, 1999). More difficult to address, but nevertheless worthwhile, would be to investigate the hypothesis that emotion processing deficits may be state-induced. Such mood-induction research poses ethical dilemmas, which would need careful consideration, but may reveal some interesting findings.

It is still not clear whether the inclusion of victim empathy training in the treatment of sex offenders is effective. With few exceptions (e.g., Pithers, 1994), the tendency is to evaluate entire treatment programmes, rather than individual treatment components. Once research has clarified the nature of sex offenders' victim empathy deficits, it would be important to establish whether the treatment for any deficit is effective. This is likely to require long-term outcome studies. Indeed, a longer-term proactive aim for future research may include attention to the prevention of sexual offending, or at least early detection of offending. Related to empathic skills, if certain types of sex offenders are found to have deficits in empathic skills under particular conditions, then research into how these deficits arise may help to identify those who may be at greater risk of offending. However, given the complexities of understanding, detecting and treating sexual offending, this seems, at present, an insurmountable task.

The findings of this study are likely to contribute to clinical psychology at a research and service provision level. In the UK, clinical psychologists are involved in the planning of services for the assessment and treatment of sex offenders, rather than in direct clinical work, the latter usually being carried out by prison and probation officers. Nevertheless, their role in service evaluation and consultation to the Home Office, in particular the Criminal Justice System and the Probation Service, is pivotal. Specifically, clinical psychologists have played an integral role

in the Sex Offender Treatment Evaluation Project group in which they have evaluated prison Sex Offender Treatment Programmes (Beech *et al.*, 1998) and community-based treatment run by the Probation Service (Barker & Morgan, 1993; Beckett, Beech, Fisher & Fordham, 1994). Presently, these programmes are targeted at child sex offenders only, although at the time of writing a similar treatment package is being developed for rapists.

The present findings indicate the need to re-evaluate current conceptualisations of empathy in sex offenders. It suggests that following further research, assessment methods be refined to accurately assess empathic skills in different types of sex offenders. On the basis of this and related research, the current trend to assess global empathy in sex offenders and expose all types of offenders to the same victim empathy treatment, appears inappropriate. Service provision may be improved by abandoning the global concept of empathy deficits, and acknowledging the recent advances that have come about from Marshall *et al.*'s (1995) work. In practice, this may be aided by individualised intervention packages for different groups of offenders, but without this increased sophistication, real deficits in empathic skills are likely to go either unnoticed or incorrectly assessed and then inappropriately treated. Subsequently, the expectation of a more refined assessment is likely lead to more appropriate treatment, tailored to an individual's needs.

In a time of increased prevalence and reporting rates of sexual offending, there has been a growth in the demand for treatment programmes. Therefore, ways to increase the effectiveness and efficiency of these programmes are becoming increasingly paramount (Maguth Nezu, 2000). These suggestions indicate the need for an overhaul of current approaches to the assessment and treatment of so-called

empathy deficits. Even if future research equivocally demonstrates that sex offenders do have deficits in emotion processing or other empathic skills, this would still constitute only one small piece of the complex puzzle of sexual offending.

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Table 1. Descriptive characteristics and scores on the TONI-3 for the sex offenders and comparison group. Groups are compared using either independent samples t-tests, or chi-square test of association where appropriate.

	GROUP			
	Sex offender	**Control**	**t-test**	
	Mean (SD)	**Mean (SD)**	***t***	***p***
N	17	20		
Age	46.0 (13.4)	40.1 (12.4)	1.40	NS
TONI IQ scores	89.3 (8.9)	92.0 (8.2)	0.96	NS
Years of Education	10.5 (0.9)	11.2 (1.4)	1.68	NS
	GROUP			
	Sex offender	**Control**	**chi-square**	
	N	***N***	χ^2	***p***
Married	4	9		
Divorced	8	0	12.01*	<.01
Single	5	11		
Employed/studying	8	20		
Children	11	9		
History of drug use	4	8		
History of alcohol misuse	5	0		
History of being bullied	11	6	4.46*	<.05
Psychiatric history	7	0		
History of head injury	9	8	0.62	NS

Table 2. Scores on FAB subtests for the sex offenders and comparison group. Groups are compared using either independent samples t-tests or Mann-Whitney test.

	Group				t-test			Mann-Whitney	
	Sex offender		Comparison						
	Mean	(SD)	Mean	(SD)	*t*	*df*	*p*	*U*	*p*
N	17		20						
Facial Subtests									
1. Identity Discrimination	98.2	(3.0)	98.0	(4.1)				165.5	NS
2. Affect Discrimination	87.7	(10.0)	87.5	(9.0)	.05	35	NS		
3. Name Affect	94.4	(4.6)	90.3	(6.6)	2.18	35	NS		
4. Select Affect	97.0	(4.7)	96.8	(4.4)				161.5	NS
5. Match Affect	93.2	(6.4)	93.8	(8.4)				148.5	NS
Total facial score (subtests 2-5)	*372.4*	*(15.3)*	*368.3*	*(19.3)*	*.71*	*35*	*NS*		
Prosody Subtests									
6. Non-emotional Discrimination	90.2	(10.4)	91.8	(7.9)				161.0	NS
7. Emotional Discrimination	97.4	(4.0)	97.5	(3.0)				164.0	NS
8a. Name Emotional Prosody	87.1	(12.0)	89.5	(9.5)	.69	35	NS		
8b. Congruent	90.1	(6.2)	93.4	(10.2)				102.0	NS
8b. Incongruent	78.8	(19.1)	87.2	(15.1)				119.0	NS
Total prosody score (subtests 7-8b)	*353.3*	*(30.8)*	*367.5*	*(26.2)*	*1.52*	*35*	*NS*		
Cross-Modal Subtests									
9. Match Emotional Prosody to Face	87.1	(9.2)	85.5	(9.3)	.51	35	NS		
10. Match Emotional Face to Prosody	90.3	(5.7)	91.6	(8.9)				128.0	NS
Total cross-modal score(subtests 9 and 10)	*177.3*	*(11.6)*	*177.1*	*(15.1)*	*.05*	*35*	*NS*		

Appendices

Appendix A: Aggression and Violent Behaviour – Instructions to Authors

Aggression and Violent Behavior

Guide for Authors

SUBMISSION REQUIREMENTS: All manuscripts should be submitted to the Editors, Vincent B. Van Hasselt and Michel Hersen, Center for Psychological Studies, Nova Southeastern University, 3301 College Avenue, Ft. Lauderdale, FL 33314. Submit three (3) high-quality copies of the entire manuscript; the original is not required. Allow ample margins and type double-space throughout. Papers should not exceed 50 pages (including references). One of the paper's authors should enclose a letter to the Editor, requesting review and possible publication; the letter must also state that the manuscript has not been previously published and has not been submitted elsewhere. One author's address (as well as any upcoming address change), telephone and FAX numbers, and E-mail address (if available) should be included; this individual will receive all correspondence from the Editor and Publisher.

Papers accepted for *Aggression and Violent Behavior, A Review Journal,* may not be published elsewhere in any language without written permission from the author(s) and publishers. Upon acceptance for publication, the author(s) must complete the Transfer of Copyright Agreement form.

COMPUTER DISKS: In order to speed publication and ensure accuracy, authors are encouraged to submit a 3.5" HD/DD computer disk to the editorial office; 5.25" HD/DD disks are acceptable if 3.5" disks are unavailable. Please observe the following criteria: 1. Send only hard copy when first submitting your paper. 2. When your paper has been refereed, revised if necessary, and accepted, send a disk containing the final version with the final hard copy. Make sure that the disk and the hard copy match exactly. 3. Specify what software was used, including which release, e.g. WordPerfect 6.0a. 4. Specify what computer was used (IBM compatible PC, Apple Macintosh, etc.) 5. The article file should include all textual material (text, references, tables, figure captions, etc.). 6. The file should follow the general instructions on style/arrangement and, in particular, the reference style of this journal as given in the Instructions to Authors. 7. The file should be single-spaced and should use the wrap around end-of line feature, i.e. returns at the end of paragraphs only. 8. Keep a back-up disk for reference and safety.

TITLE PAGE: The title page should list (1) the article; (2) the authors' names and affiliations at the time the work was conducted; (3) a concise running title; and (4) an unnumbered footnote giving an address for reprint requests and acknowledgements.

ABSTRACT: An abstract should be submitted that does not exceed 200 words in length. This should be typed on a separate page following the title page. Abstracts should not contain reference citations.

KEYWORDS: Authors should include up to six keywords with their article. Keywords should be selected from the APA list of index descriptors, unless otherwise agreed with the Editor.

STYLE AND REFERENCES: Manuscripts should be carefully prepared using the *Publication Manual of the American Psychological Association,* 4th ed., 1994, for style. The reference section must be double spaced and all works cited must be listed. Avoid abbreviations of journal titles and incomplete information.

Reference Style for Journals: Raymond, M.J. (1964). The treatment of addiction by aversion conditioning with apomorphine. *Behavior Research and Therapy, 3,* 287-290.

For Books: Barlow, D.H. Hayes, S.C., & Nelson, R.O.(1984). *The scientist practitioner: Research and accountability in clinical and educational settings.* Elmsford, NY: Pergamon.

TABLES AND FIGURES: Do not send glossy prints, photographs, or original artwork until acceptance. Copies of all tables and figures should be included with each copy of the manuscript. Upon acceptance of a manuscript for publication, original, camera-ready photographs and artwork must be submitted, unmounted and on glossy paper. Photocopies, blue ink, or pencil are not acceptable. Use black india ink and type figure legends on a separate sheet. Write the article title and figure number lightly in pencil on the back of each.

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Appendix B: British Journal of Clinical Psychology - Instructions to Authors

British Journal of Clinical Psychology

Notes for Contributors

Four good copies of papers in line with the Journal Scope should be submitted to the Editor:

Professor Stephen Morley
The British Psychological Society,
St Andrews House,
48 Princess Road East,
Leicester,
LE1 7DR,
UK

The Journal encourages submissions in English from authors around the world.

Case studies are normally only published as Brief Reports. Papers are evaluated in terms of their theoretical importance, contributions to knowledge, relevance to the concerns of practising clinical psychologists, and readability. Papers generally appear in order of acceptance except for the priority given to Brief Reports and Comments.

The Editorial Board will reject papers which evidence discriminatory, unethical or unprofessional practices.

The Journal operates a policy of blind peer review. Papers will normally be scrutinized and commented on by at least two referees as well as by the Editor or an Associate Editor. The referees will not be made aware of the identity of the author. All information about authorship including personal acknowledgements and institutional affiliations should be confined to a removable front page and the text should be free of all such clues as identifiable self-citations ("In our earlier work..."). The paper's title should be repeated on the first page of the text.

Preparation of manuscripts

Publication is speeded by care in preparation. Contributions should be prepared in accordance with The British Psychological Society Style Guide available online, or in printed format from mail@bps.org.uk.

Contributions should be as concise as clarity permits, and illustrations kept as few as possible. Papers should not normally exceed 5000 words. A structured abstract of up to 250 words should be provided. The title should indicate exactly but as briefly as possible the subject of the article, bearing in mind its use in abstracting and indexing schemes.

The Journal proposes to adopt structured abstracts. Articles containing original scientific research should include a structured abstract with the following headings and information:

Objectives:
State the primary objective of the paper and the major hypothesis tested (if appropriate).
Design:
Describe the design of the study and describe the principal reasoning for the procedures adopted.
Methods:
State the procedures used, including the selection and numbers of participants, the interventions or experimental manipulations, and the primary outcome measures.
Results:
State the main results of the study. Numerical data may be included but should be kept to a minimum.
Conclusions:
State the conclusions that can be drawn from the data provided, and their clinical implications (if appropriate).

Review articles should include an abstract which may be structured under the following headings:

Purpose:
State the primary objectives of the review.
Methods:
State the methods used to select studies for the review, the criteria for inclusion, and the way in which the material was analysed.
Results:

State the main results of the review.
Conclusions:
State the conclusions that can be drawn from the review, and their clinical implications if appropriate.

Authors please note: Revisions without a structured abstract will not be considered for publication.

Contributions should be typed in double spacing with wide margins and on only one side of each sheet. Sheets should be numbered. The top copy and three good copies should be submitted and a copy retained by the author.

Tables should be typed in double spacing on separate sheets. Each should have a self-explanatory title and should be comprehensible without reference to the text. They should be referred to in the text by arabic numerals. Data given should be checked for accuracy and must agree with mentions in the text.

Figures, i.e. diagrams graphs or other illustrations, should be on separate sheets, numbered sequentially "Fig. 1", etc., and each identified on the back with the author's name and the title of the paper . They should be carefully drawn, larger than their intended size, suitable for photographic reduction and clear when reduced in size. Captions should be listed on a separate sheet.

Bibliographical references in the text should quote the author's name and date of publication thus: MacGregor (1996). They should be listed alphabetically by author at the end of the article according to the following format:

Herbert, M. (1993). Working with children and the Children Act (pp. 77-106). Leicester:The British Psychological Society.

Smith, P. B., Peterson, M. F., & Misumi, J. (1994). Event management and work team effectiveness in Japan, Britain and the USA. Journal of Occupational and Organizational Psychology, 67, 33-44

Particular care should be taken to ensure that references are accurate and complete.

SI units must be used for all measurements.

Participants in research should not be referred to as subjects; suitable alternative formulations will depend on the sample members.
Brief Reports and Comments are limited to two printed pages. These are subject to an accelerated review process to afford rapid publication of research studies, and theoretical, critical or review comments whose essential contribution can be made within a small space. They also include research studies whose importance or breadth of interest is insufficient to warrant publication as full articles, and case reports making a distinctive contribution to theory or method. Authors are encouraged to append an extended report to assist in the evaluation of the submission and to be made available to interested readers on request to the author. Figures and tables should be avoided. Title, author name and address for reprints and date of receipt are not included in the allowance.
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Appendix C: University of Southampton Ethical Approval

University of Southampton

Department of Psychology

University of Southampton
Highfield
Southampton
SO17 1BJ
United Kingdom

Telephone +44 (0)23 8059 5000
Fax +44 (0)23 8059 4597
Email

25th July 2000

Ms Michelle Cox
15 Downend Park
Horfield
Bristol
BS7 9PU

Dear Michelle,

Re: Application for Ethical Approval

I am writing to confirm you that your ethical application titled "Emotional processing deficits amongst a group of male sexual offenders" has been given approval by the department.

Should you require any further information, please do not hesitate in contacting me on (023) 80 593995.

Yours sincerely,

KMSmith

Kathryn Smith
Ethical Secretary

Appendix D: Semi-Structured Interview

- **School/education**

1. How old were you when you started school?
2. What was life like for you at school?
3. Did you find it easy to make friends? Who was your best friend when you were 8?
4. Did you always go to school?
5. Were you ever bullied at school? Was this all through school, or were there separate instances?
6. How would one of your teachers describe you at secondary school? (E.g., teacher's pet, smoking behind the bike shed?
7. How old were you when you left school?
8. What qualifications did you come out with?
9. Did you go to college/university? What qualifications did you get?
10. What sort of work have you done?
11. Are you working at the moment?

- **Relationships**

12. Do you have a partner? What is your marital status?
13. Do you have any children?
14. In a few words, how would you describe yourself now?

- **Medication/drugs/alcohol**

15. Are you currently taking any medication? What are you taking it for?
16. I'd like to take a brief drug and alcohol history. How much alcohol do you usually drink? Have you ever taken any illicit drugs? (frequency/type)
17. Have you ever had professional help for any psychiatric difficulties (mental health)?
18. Have you ever had a head injury?

Appendix E: Initial Letter to Sex Offender Group

AVON
Probation
SERVICE

Acting Chief Probation Officer
Peter Samson

The Probation Office
Devon House
123 Whitehall Road
Easton
BRISTOL
BS5 9BJ
Tel: 0117 954 1224
Fax: 0117 935 0174

Ref:MC/jvd
3 August 2000

Mr

Dear Mr

We are writing to tell you about some research which is taking place within the Avon Probation Service. The research is being done by Michelle Cox who is a Trainee Clinical Psychologist from the University of Southampton. She is researching how people who have committed similar offences recognise feelings in faces and voices.

If you decide to take part in the study, you will be asked to do two tasks. One involves looking at some photographs of peoples' faces and listening to some recordings of voices. The other involves some picture puzzle tasks. She will also ask you a few questions about yourself. The interview will take place either here at Devon House, 123 Whitehall Road, Easton, Bristol or the Bath or Weston-super-Mare office and will take about an hour and a half. Your return travel expenses will be refunded to you.

After the study, your results will be added to other people's and your name will stay anonymous. Although you will not directly benefit from this research, it will add to knowledge about how different people recognise feelings in faces and voices and may benefit others in the future.

Michelle Cox will be contacting you within the next couple of days to arrange an appointment and answer any questions you may have.

Your participation in the research would be gratefully appreciated. Participation in this research is your own free choice, as it is unrelated to your contact with Probation.

Yours sincerely

COPY

Paul Davis & Liz Hodge
Probation Officers

Appendix F: Information Sheet for Sex Offender Group

Information Sheet for Research Project

My name is Michelle Cox and I am a Trainee Clinical Psychologist from the University of Southampton. As part of my professional qualification I am researching emotion processing, which relates to how different people recognise feelings in faces and voices.

I want to recruit a group of males aged between 18 and 65 years old, who have been educated to secondary school level only.

Taking part in the study involves doing three tasks:

1. Looking at some photographs of peoples' faces and listening to some recordings of voices
2. Doing some picture puzzle tasks
3. Answering a few questions about your experiences at school and work.

The interview will take place at Devon House and will take approximately one hour.

Your name will be kept anonymous and will not appear anywhere in the study. Your results will be added to other people's to improve knowledge and understanding of recognising faces and feelings.

Appendix G: Information Sheet for Comparison Group

Information for Research Project

My name is Michelle Cox and I am a Trainee Clinical Psychologist from the University of Southampton. As part of my professional qualification I am researching emotion processing, which relates to how different people recognise feelings in faces and voices.

I want to recruit a group of males aged between 18 and 65 years old, who have been educated to secondary school level only.

Taking part in the study involves doing three tasks:

4. Looking at some photographs of peoples' faces and listening to some recordings of voices
5. Doing some picture puzzle tasks
6. Answering a few questions about your experiences at school and work.

The interview will take place at [employer's premises], and will take approximately one hour.

Your name will be kept anonymous and will not appear anywhere in the study. Your results will be added to other people's to improve knowledge and understanding of recognising faces and feelings.

If you are interested in taking part in the study, please contact me by e-mail on: mcc_psychol@hotmail.com. Your participation would be gratefully appreciated. I look forward to meeting you.

Yours sincerely,

Michelle Cox
Trainee Clinical Psychologist

Appendix H: Consent Form for Sex Offender Group

Investigating the recognition of feelings in faces and voices.

CONSENT FORM

Please complete the following:

	Circle Answer
Have you read the information sheet?	Yes/No
Have you had the opportunity to ask questions and discuss the study?	Yes/No
Have you received satisfactory answers to your questions?	Yes/No
Have you received enough information about the study?	Yes/No
Do you understand that you are free to withdraw from this study: • at any time • without having to give a reason • without your involvement with Probation being affected in any way?	Yes/No
Do you agree to take part in this research?	Yes/No

I..... (please print name) agree to take part in a study about which I have received information.

Signed (Participant) ..... Date .....

Signed (Researcher) ..... Date .....

Name (Block Capitals) .....

Appendix I: Consent Form for Comparison Group

Investigating the recognition of feelings in faces and voices.

CONSENT FORM

Please complete the following:

	Circle Answer
Have you read the information sheet?	Yes/No
Have you had the opportunity to ask questions and discuss the study?	Yes/No
Have you received satisfactory answers to your questions?	Yes/No
Have you received enough information about the study?	Yes/No
Do you understand that you are free to withdraw from this study: • at any time • without having to give a reason	Yes/No
Do you agree to take part in this research?	Yes/No

I..... (please print name) agree to take part in a study about which I have received information.

Signed (Participant) ..... Date .....

Signed (Researcher) ..... Date .....

Name (Block Capitals) .....

Appendix J: Correlation Matrix

	Facial identity discrimination	Facial affect discrimination	Name facial affect	Select facial affect	Match facial affect	Non-emotional prosody discrimination	Emotional prosody discrimination	Name emotional prosody	Conflicting prosody – congruent	Conflicting prosody - incongruent	Match emotional prosody to emotional face	Match emotional face to emotional prosody
Facial identity discrimination	1.00	.22	.13	.11	.65	.18	.13	.01	-.08	.18	.20	.40
Facial affect discrimination	.22	1.00	.15	.06	.24	.05	-.26	-.05	-.08	-.05	-.08	.04
Name facial affect	.13	.15	1.00	.15	.31	.11	-.29	.07	.03	.24	.13	.20
Select facial affect	.11	.06	.15	1.00	.20	.34	.04	.30	.13	.21	.20	.14
Match facial affect	.65	.24	.31	.20	1.00	.46	.04	.14	.00	.39	.32	.51
Non-emotional prosody discrimination	.18	.05	.11	.34	.46	1.00	.20	.40	-.03	.19	.37	.40
Emotional prosody discrimination	.13	-.26	-.29	.04	.04	.20	1.00	.03	.16	.05	.27	-.16
Name emotional prosody	.01	-.05	.07	.30	.14	.40	.03	1.00	.19	.38	.54	.30
Conflicting prosody - congruent	-.08	-.08	.03	.14	.00	-.03	.16	.19	1.00	.40	.24	.10
Conflicting prosody - incongruent	.18	-.05	.24	.21	.39	.19	.05	.38	.40	1.00	.23	.37
Match emotional prosody to emotional face	.20	-.08	.13	.20	.32	.37	.27	.54	.26	.23	1.00	.29
Match emotional face to emotional prosody	.40	.04	.20	.14	.51	.40	-.16	.30	.10	.37	.29	1.00