



Moral reasoning and conduct problems in children with emotional and behavioural difficulties

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Abstract

This study investigates whether performance on the moral/conventional distinction measure predicts level of childhood conduct problems as indexed by the Psychopathy Screening Device [Frick, P. J., Hare, R. D. (1996). *The psychopathy screening device*. Toronto: Multi-Health Systems.]. One-hundred and two children with emotional and behavioural difficulties were presented with the moral/conventional distinction measure. Performance on the moral/conventional distinction measure did predict extent of behavioural disturbance. The results are interpreted within the Violence Inhibition Mechanism model of normal and atypical moral development. © 2001 Elsevier Science Ltd. All rights reserved.

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1. Introduction

Children with Conduct Disorder and adults with Psychopathy have all been reported to lack empathy (DSM-IV, 1994; [Hare, 1991]). Specifically, they have been reported to be less likely to affectively respond to the emotions of others, in particular the distress of others. Children with conduct problems and adult psychopaths show reduced skin conductance responses to individuals showing distress cues (e.g., Aniskiewicz, 1979; Blair, 1999; Blair, Jones, Clark & Smith, 1997; House & Milligan, 1976). In addition, children with conduct problems are less likely than controls to avert their gaze when watching films depicting another's distress (Eisenberg et al., 1996).

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Recently, a model of affective empathy, the Violence Inhibition Mechanism (VIM) model, has been developed (e.g. Blair, 1995; Blair et al., 1997). At the ethological level, this model was also prompted by the work of the ethologists Eibl-Eibesfeldt (1970) and Lorenz (1981) who proposed that most social animals possess mechanisms for the control of aggression. They noted that submission cues displayed to a conspecific aggressor terminate attacks; an aggressor dog will cease fighting if its opponent bares its throat. The VIM is considered to be a functionally similar mechanism in humans where sad and fearful facial expressions and vocal tones (i.e., distress cues) function as a human submission response. The activation of the mechanism is considered to result in autonomic arousal and the inhibition of ongoing behavior (Blair, 1995; Blair et al., 1997). It should be noted that the VIM is thought to be activated whenever distress cues are displayed. It is not reliant upon contextual information about ongoing violence for activation. In line with this, the display of distress cues has been found to result in the inhibition of not only aggression (e.g. Perry & Perry, 1974) but also non-violent disputes over property ownership (e.g. Camras, 1977) and sexual activity (Chaplin, Rice & Harris, 1995).

In addition to the on-line effects of the activation of the VIM, there is a learning component also. The suggestion is that representations that are current at the time of VIM activation will become triggers for the activation of VIM through a process of classical conditioning (Blair, 1995). It is for this reason that the VIM is thought to play a crucial role in socialization and the emergence of morality. Certainly, studies have shown that moral socialization is best achieved through the use of empathy induction; i.e. reasoning by the caregiver that draws the child's attention to the plight of the victim (Baumrind, 1971; Hoffman & Saltzstein, 1967). In other words, moral socialization is achieved best through a process that increases the salience of the victim's distress.

The importance of responsiveness to distress cues for the emergence of morality can be seen from work on the moral/conventional distinction. The moral/conventional distinction is the distinction that children and adults make in their judgements between moral and conventional transgressions (Smetana, 1993; Turiel, 1983). This distinction is made from the age of 39 months (e.g. Smetana & Braeges, 1990) and is found in cross cultures (e.g. Nucci, Turiel & Encarnacion-Gawrych, 1983; Song, Smetana & Kim, 1987). Within the literature, moral transgressions (e.g. hitting another, damaging another's property) are defined by their consequences for the rights and welfare of others. Conventional transgressions (e.g. talking in class, dressing in opposite sex clothes) are defined as by their consequences for the social order. Children and adults generally judge moral transgressions to be more *serious* than conventional transgressions (e.g. Nucci, 1981; Smetana & Braeges, 1990). In addition, and more importantly, modifying the rule conditions (by an authority figure removing the prohibition against the act, for example) only affects the permissibility of conventional transgressions. Even if there is no rule prohibiting the action, subjects generally judge moral transgressions as non-permissible. In contrast, if there is no rule prohibiting a conventional transgression, subjects generally judge the act as permissible. While subjects do not always make the moral/conventional distinction in their seriousness judgements, they do always make the moral/conventional distinction in their modifiability judgements. Thus, children have been found to judge some conventional transgressions as serious as some moral transgressions at some ages (Stoddart & Turiel, 1985; Turiel, 1983). However, even those children who judged the conventional transgressions as serious as the moral transgressions judged the moral transgressions as less rule contingent and less under authority jurisdiction than the conventional transgressions.

It is crucial to note here that it is the presence of victims which distinguishes moral and conventional transgressions. If a subject considers that a transgression will result in a victim, he/she will process that transgression as moral. If a subject does not consider that a transgression will not result in a victim, he/she will process that transgression as conventional. Thus, Smetana (1982) has shown that whether an individual treats abortion as a moral transgression or conventional transgression is determined by whether he/she judges the act to involve a victim or not. Similarly, Smetana (1985) has found that unknown transgressions (specified by a nonsense word; i.e. X has done dool) were processed as moral or conventional according to the specified consequences of the act. Thus, 'X has done dool and made Y cry' would be processed as moral while 'X has done dool and the teacher told him off' would be processed as conventional. Thus, if an individual is responsive to the presence of victims, he/she should make the moral/conventional distinction. On the other hand, if an individual is not sensitive to the distress of victims, he should not make the moral/conventional distinction.

In line with the VIM model, children with conduct problems and adult psychopaths have been found to show a reduced moral/conventional distinction under modified rule conditions (i.e. when the rule prohibiting the act has been removed due to teacher/cultural proclamation; Blair, 1995, 1997; Blair, Jones, Clark & Smith, 1995). In addition, while children with conduct problems and psychopathic adults show roughly equivalent rationales about the 'wrongness' of social conventional transgressions, their rationales for the 'wrongness' of moral transgressions differ from those of controls. Their rationales of victim-based moral transgressions are significantly less likely than those of controls to include reference to the victim's welfare (Arsenio & Fleiss, 1996; Blair, 1995; Blair et al., 1995; Nucci & Herman, 1982). As a result of these studies, it could be suggested that the moral/ conventional distinction measure might be used as an index of an individual's VIM. Previous investigations of the VIM model have involved the selection of subjects either through the Psychopathy Screening Device (Frick & Hare, 2000) or the Psychopathy Checklist (Hare, 1991). These two measures are designed for the assessment of children and adults respectively. They identify strikingly similar syndromes in children and adults with conduct problems (Frick, O'Brien, Wootton & McBurnett, 1994; Harpur, Hare & Haksian, 1989). Thus, for example, factor analyses identify two dimensions of behaviour: one associated with impulsiveness and conduct problems and one associated with the interpersonal and motivational aspects of psychopathy (Frick et al., 1994; Harpur et al., 1989).

No previous studies have selected groups according to the performance on the moral/conventional distinction and examined whether their group assignment predicts their level of conduct problems. Yet, if as has been suggested, the moral/conventional distinction can be used as an index of the functioning of an individual's VIM, it must be predicted that individuals who perform poorly on this task should be more likely to show behavioural disturbance. The present paper aims to investigate this issue in a population of children with emotional and behavioural difficulties. Children with emotional and behavioural difficulties were chosen for the present study because such children are more likely to show VIM disturbance given the nature of the behavioural disturbance. The specific predictions made were: First, and in line with previous work (Blair, 1997), a group of high scorers on the Psychopathy Screening Device (PSD) should perform more poorly on the moral/ conventional distinction under modified rule conditions than low scorers on the PSD. Secondly, analysis of a population of children with emotional and behavioural difficulties should reveal a significant inverse correlation between performance on the moral/conventional

distinction under modified rule conditions and conduct problems as indexed by the PSD. Thirdly, children who ‘fail’ the moral/conventional distinction under modified rule conditions should show significantly greater levels of behavioural disturbance than those who ‘pass’ the moral/conventional distinction.

2. Method

2.1. Design

This experiment involved a correlational design. Dependent variables recorded were: score on the moral/conventional distinction and score on the items of the PSD.

2.2. Subjects

The subjects were male children resident at Special Schools for children with emotional and behavioral difficulties in the Kent area. They all had Statements under the Education Act of 1993 as too problematic for education in mainstream schools either because of high levels of aggression or other significant behavioural disturbance (e.g. hyperactivity). One-hundred and two children were investigated following parental consent. The moral/conventional distinction was administered to the children before the teachers rated the children on the PSD; thus, the children were tested ‘blind’. Two teachers filled in a PSD for each participating child. These teachers were the individual child’s form teacher and another teacher who had extensive knowledge of that child. The inter-rater agreement for the PSD scores was 0.58. The children ranged in age from 8.5 to 16 years (mean = 12.58; S.D. = 1.92) and in verbal ability, as indexed by the British Picture Vocabulary Scale, from 50 to 117 (mean = 82.53; S.D. = 14.21; range = 50–117).

2.3. Measures

2.3.1. The moral/conventional distinction

The stories used to measure the moral/conventional distinction were all taken from the standard literature (see Smetana, 1993). The four moral stories involved: (1) a child hitting another child; (2) a child knocking another child over in the playground; (3) a child smashing the school piano and (4) a child smashing the school swing. The four conventional stories involved: (1) a boy child wearing a skirt, (2) two children talking in class; (3) a child walking out of the classroom without permission and (4) a child who stops paying attention to the lesson and turns his back on the teacher.

2.3.2. Psychopathy screening device (PSD)

The PSD (Frick & Hare, 2000) is a 20-item scale. Two teachers completed the PSD for each participating child; the main class teacher and the school’s headteacher. In the case of the residential boys, their form teacher and their residential social worker completed the PSD. The PSD is designed to measure the characteristics of psychopathy in a way that is analogous to the Revised Psychopathy Checklist for adults (PCL-R; Hare, 1991). A study of the PSD revealed a similar two-factor structure to that identified by analysis of the PCL-R (Frick et al., 1994). The

Impulsivity/Conduct Problems factor comprises of overt behavioural characteristics such as impulsivity, poor impulse control (e.g. becomes angry when corrected), and delinquent behaviours (e.g. Frick et al., 1994; Harpur et al., 1989). This factor is highly correlated with traditional measures of conduct problems, such as the DSM-IV definition of Conduct Disorder (Frick, 1995). The Callous/Unemotional factor captures such characteristics as lack of guilt, lack of empathy, and superficial charm, which are considered primary in clinical description of psychopathy (Cleckley, 1967; Hare, 1970). A rapidly burgeoning research literature attests to the validity of this measure; children with psychopathic tendencies identified by the PSD, show similar cognitive profiles to adult psychopathic individuals (e.g. Blair, 1999; Frick et al., 1994; O'Brien & Frick, 1996). For each of the 20 items on the PSD, the teachers could rate the participants with a score of between 0 and 2. 0 referred to the fact that the statement was "not true at all", 1 referred to the statement being "sometimes true", and 2 referred to statements that were "definitely true". Five items were inversely scored prior to the totalling of each statement to obtain the final PSD score. A final score of up to 40 could be obtained. The participants score for each item was the average assigned by the two teachers. The Pearson correlation of the ratings of the two teachers was 0.58 for the total PSD score.

2.4. Procedure

The children were assessed individually for 10–15 min in a quiet room adjoining the classroom. Following a preliminary period familiarising the subject with the experimenter, the subject was presented with the British Picture Vocabulary Scale (BPVS; Dunn, Whetton & Pintillie, 1982) and the moral/conventional distinction. The order of these two tasks was randomised across subjects. The PSD was completed by two teachers who worked closely with the children following the assessment of the child (see below).

2.4.1. The moral/conventional distinction

The subjects were told that they would be asked some questions concerned with acts that sometimes happen in school. Each of the transgression scenes was read out to the subject one at a time. The order of presentation of the transgression scenes was randomised across subjects. After the transgression scene had been presented, the children were asked the following questions in a fixed order.

Questions under normal rule conditions:

Question 1: "Is it OK to do (the transgression), or is it a bad thing to do?" to assess the permissibility of the act.

Question 2: The child was then asked to give a score from 1–10 according to how bad they judged the transgression to be, 1 being a little bad, 10 being very, very bad.

Question assessing the child's justifications:

Question 3: "Why is it wrong to do (the transgression)?" to assess the subject's justifications about the transgression.

Questions under modified rule conditions:

Question 4: “If there was no rule about people doing (the transgression), would it be OK to do (the transgression)?” to assess the transgression’s rule contingency.

Question 5: “If the teacher in the school said that anybody can do (the transgression), would it be OK to do (the transgression)?” to assess the transgression’s authority jurisdiction.

Responses were recorded on standard scoring sheets.

2.5. Scoring procedure

2.5.1. The moral/conventional distinction

The scoring procedure followed that commonly used in the literature (e.g., Blair, 1995). The answers to all questions, except question 2, were scored categorically. *Yes* responses were assigned a score of 0, and *no (not OK)* responses a score of 1. Subjects could thus achieve a cumulative score of between 0 and 4 for each of the domains for each of the questions. Question 2 was scored according to the value (between 1 and 10) the subject had given that transgression. The justifications of the subjects were scored according to whether the subject made reference to the victim’s welfare. This followed scoring criteria adopted in previous studies (Blair, 1995). An example of a victim’s welfare justifications are: ‘It is bad to hit someone because it hurts them’, ‘They should not smash up this swing because then the other children will not be able to play on it’. Two coders scored these justifications, and inter-rater reliability was high (96%).

A moral/conventional distinction score was calculated according to the subject’s performance under modified rule conditions (i.e. the rule contingency and teacher authority questions 4 and 5). These are the two judgements where the rules prohibiting the acts have been removed. The moral/conventional distinction score was calculated according to the following formula:

$$\frac{\text{Number of moral transgressions prohibited under modified rule conditions} - \text{Number of conventional transgressions prohibited under modified rule conditions.}}{\text{Number of conventional transgressions prohibited under modified rule conditions.}}$$

Because it is possible to prohibit more conventional transgressions than moral transgressions, it is possible to obtain a negative moral/convention distinction score.

3. Results

3.1. Analysis of high and low scorers on the Psychopathy Screening Device (PSD)

Following previous work (Blair, 1997), the groups were divided into three groups according to their behavioural PSD score using cut-off points adapted from Blair. The three groups were: (1) a high scoring group on the PSD ($n = 18$) with a PSD score greater than or equal to 27; (2) a mixed group ($n = 63$) whose PSD score was 15–27; and (3) a low scoring group on the PSD ($n = 21$) with a PSD score less than 15. One way analysis of variance (ANOVAs) were then conducted on the

two extreme groups to determine whether there were inter-group differences in age or verbal ability assessed by the BPVS (Table 1). There were not: age [$F(1, 37)=0.82$; n.s.] and verbal ability [$F(1, 37)=2.23$; n.s.].

Subsequent repeated measures ANOVAs were conducted to explore inter-group differences on the moral/conventional distinction measures. These were one tailed; it was predicted that the behaviourally disturbed group would be less likely to show the moral/conventional distinction. These ANOVAs revealed main effects of domain (moral/conventional) for seriousness [$F(1, 37)=16.77$; $P < 0.05$], other's welfare [$F(1, 37)=43.17$; $P < 0.05$], authority jurisdiction ($F(1, 37)=15.78$; $P < 0.05$) and rule contingency [$F(1, 37)=22.44$; $P < 0.05$]. However, there was no main effect of domain for permissibility [$F(1, 37)=0.30$; n.s.]. Thus, while the subjects did not judge the conventional transgressions to be any more permissible than the moral transgressions, they did judge them to be less serious, more under the jurisdiction of authority and more rule contingent (Table 1).

There were main trends of group (high scorers/low scorers) for both other's welfare and authority jurisdiction [$F(1, 37)=2.19$ and $F(1, 37)=1.99$, respectively]. The behaviourally disturbed group were less likely to make references to others' welfare in their justifications and were more likely to allow transgressions when an authority figure had removed the prohibiting rule (Table 1). Crucially, there were significant group by domain interactions for both others' welfare [$F(1, 37)=3.21$; $P < 0.05$] and rule contingency [$F(1, 37)=8.16$]. As would be expected from previous findings (e.g. Blair, 1997), the behaviourally disturbed group made significantly less of a moral/conventional distinction than the appropriate behaviour group for both of these items (Table 1).

3.2. The population correlational analysis

A correlational analysis was conducted on the entire population of children with emotional and behavioural difficulties in the present study. This explored the relationships between: (1) the biographical measures (age and verbal ability); (2) the behavioural measures (score on the PSD and its constituent factors) and; (3) the moral/conventional distinction measures. Table 2 shows the results of this correlational analysis. This indicates: first, that neither age nor verbal ability significantly predicted total PSD score or scores on its constituent factors, or performance on the

Table 1

The means and standard deviations of the criterion judgements for both subject groups and for both transgressions and positive acts

Group ^a	Biographical details		Criterion judgements									
	Age	Verbal ability	Permissibility		Seriousness		Welfare authority			Rule contingency		
			M	C	M	C	M	C	M	C	M	C
High PSD scorers	12.22 (2.50)	82.33 (13.31)	0.92 (0.21)	0.92 (0.19)	7.86 (2.10)	6.63 (1.88)	0.26 (0.37)	0.01 (0.06)	0.57 (0.43)	0.36 (0.37)	0.64 (0.40)	0.54 (0.35)
Low PSD scorers	12.88 (2.05)	76.62 (10.57)	0.94 (0.19)	0.90 (0.19)	8.58 (1.49)	6.74 (2.06)	0.46 (0.30)	0.00 (0.00)	0.77 (0.33)	0.43 (0.36)	0.82 (0.28)	0.43 (0.35)

^a PSD, Psychopathy Screening Device.

Table 2
Correlation analysis^a

	Age	VA	PSD	IMF	ICD	Other	Perm	Ser	Wel	MvC
Age	–	–0.292*	–0.067	–0.052	–0.068	–0.016	0.071	0.081	0.105	–0.088
VA		–	0.090	0.039	0.097	0.103	0.203	0.103	0.140	0.103
PSD			–	0.863***	0.925***	0.873***	–0.061	–0.075	–0.164*	–0.180*
IMF				–	0.668***	0.734***	–0.069	–0.181*	–0.281**	–0.240*
ICD					–	0.711***	–0.034	–0.005	–0.070	–0.138
Other						–	–0.084	–0.051	–0.098	–0.111
Perm							–	0.541***	0.196*	0.458***
Ser								–	0.186*	0.465***
MvC									–	0.171*

^a VA, verbal ability; PSD, score on Psychopathy Screening Device; IMF, score on the interpersonal and motivational factor of the PSD; ICD, score on the impulsivity and conduct disorder factor of the PSD; Other, score on the four items not included in the interpersonal and motivational factor or the impulsivity and conduct disorder factor; Perm, Strength of moral/conventional distinction for the permissibility question; Ser, Strength of moral/conventional distinction for the seriousness question; Wel, amount of reference in the subject's reasoning to the welfare of others; MvC, performance on the moral/conventional distinction under modified rule conditions (the rule contingency and teacher authority questions combined)

* $P < 0.05$.

** $P = 0.01$.

*** $P = 0.001$.

moral/conventional distinction. Secondly, and unsurprisingly, high inter-correlations were found between the PSD and its constituent factors. Thirdly, the moral/conventional distinction score obtained through the rule contingency questions predicted, albeit modestly, total PSD score and score on the Psychopathy factor of the PSD. Fourthly, amount of welfare reasoning also predicted total PSD score and score on the Psychopathy factor of the PSD.

3.3. Analysis of 'failers' and 'passers' on the moral/conventional distinction

The subjects were then divided into three groups according to their moral/conventional distinction score under modified rule conditions (see Section 2.5). The three groups were: (1) a group who failed the moral/conventional distinction under modified rule conditions; defined as scoring 0 or below ($n = 30$).¹ (2) an indeterminate group; scoring between 1 and 3 on the moral/conventional distinction under modified rule conditions ($n = 41$); and (3) a group who passed the moral/conventional distinction; defined as scoring 4 or greater under modified rule conditions ($n = 31$). The definitional criteria for these three groups were developed from (Blair, 1995).

One way ANOVAs were then conducted on the two extreme groups to determine whether there were inter-group differences in age or verbal ability (Table 3). As can be seen, there were no inter-group differences. All subsequent ANOVAs were one tailed; it was predicted that the children

¹ Scores of < 0 are possible if the participant prohibits more conventional transgressions than moral transgressions.

Table 3

Moral/conventional distinction group and rated levels of behavioural disturbance as indicated by the Psychopathy Screening Device (PSD)^a

	Failers	Passers	<i>F</i> (1, 59)	<i>P</i>
<i>Biographical data</i>				
Age	12.83 (2.01)	12.54 (2.09)	0.299	n.s.
Verbal ability	81.70 (14.58)	83.29 (11.22)	0.229	n.s.
Total behavioural performance				
<i>Total behavioural performance</i>				
PSD	21.95 (7.01)	18.39 (5.64)	4.799	< 0.05
Motivational	5.70 (2.31)	4.34 (1.97)	6.140	< 0.05
Impulsivity	11.18 (3.76)	9.42 (3.30)	3.794	< 0.05
Other	4.95 (1.77)	4.37 (1.50)	1.907	< 0.1

^a 'Failers', those who scored 0 or less on the moral/conventional distinction measure under modified rule conditions (see Section 2.5); 'Passes', those who scored 4 or greater on the moral/conventional distinction measure under modified rule conditions; PSD, score on PSD; Motivational, score on the interpersonal and motivational factor of the PSD; Impulsivity, score on the impulsivity and conduct disorder factor of the PSD; Other, score on the four items not included in the interpersonal and motivational factor or the Impulsivity and Conduct Disorder factor.

who 'failed' the moral/conventional distinction would show greater levels of behavioural disturbance than those who 'passed'. One way ANOVAs revealed that the children who failed the moral/conventional distinction were showing significantly more problematic behaviour according to total PSD score and both its constituent factors (Table 3).

4. Discussion

The present study explored the relationship between performance on the moral/conventional distinction and level of behavioural disturbance as indexed by the PSD. The study revealed: first, and in line with previous work (Blair, 1997), that more behaviourally disturbed children (high PSD scorers) performed poorer on the moral/conventional distinction under modified rule conditions than less behaviourally disturbed children (low PSD scorers). In addition, high scorers were less likely than low scorers to justify the 'wrongness' of moral transgressions with reference to the others' welfare. Secondly, and in line with predictions, the correlational analysis revealed: (1) significant inverse correlations between total behavioural disturbance as measured by the PSD and performance on the moral/conventional distinction under modified rule conditions; (2) significant inverse correlations between total behavioural disturbance as measured by the PSD and amount of reference to others' welfare; (3) significant inverse correlations between score on the Interpersonal and Motivational component factor of the PSD and performance on the moral/conventional distinction under modified rule conditions; and (4) significant inverse correlations between score on the Interpersonal and Motivational component factor of the PSD and amount of reference to others' welfare. Thirdly, and in line with predictions, children who 'failed' the

moral/conventional distinction under modified rule conditions showed significantly greater levels of behavioural disturbance according to their PSD scores than children who 'passed'.

The main experimental results compliment and extend previous research. Previous research has shown that groups selected according to the extent of their behavioral problems show impairments on measures of moral reasoning (Arsenio & Fleiss, 1996; Blair, 1995, 1997; Blair et al., 1995; Blasi, 1980; Nucci & Herman, 1982; Smetana, 1990). This was also found in the present study. Those children who were rated by teachers as scoring highly on the PSD made significantly less of a moral/conventional distinction under modified rule conditions than those children rated as low scoring. In addition, the children rated as high scoring on the PSD were significantly less likely than those rated low PSD scoring to make reference to other's welfare in their justifications of the 'badness' of moral transgressions.

Before we consider the implications of the current results for the VIM model, potential implications for other accounts should be considered. Could the results be explained in terms of positions based around such social-cognitive processes as empathy or perspective taking? Researchers have certainly implicated empathy/perspective-taking in the development of morality (Hoffman, 1987; Turiel, 1983). However, empathy is a rather nebulous concept which has been defined in a variety of different ways (Eisenberg & Strayer, 1987). Moreover, most conceptualisations of empathy consider that it is a unitary process activated by all emotional expressions (Feshbach, 1983). However, it is now known that dissociable neuro-cognitive systems mediate responding to the different emotional expressions (Blair, Morris, Frith, Perrett, & Dolan, 1999; Calder, Young, Rowland, & Perrett, 1996; Morris et al., 1996; Sprengelmeyer, Young, Calder, Karnat, Lange & Homberg, 1996). Crucially, children with psychopathic tendencies only show difficulties processing those expressions, i.e. sadness and fearfulness, that are considered to be mediated by the VIM (e.g. Blair & Coles, 2001; Stevens, Charman & Blair, 2000). Differences in perspective taking are unlikely to be mediating the current results. Perspective taking is the ability to place yourself in the perspective of another; i.e. to represent the other individual's mental state, in other words to show Theory of Mind. Children with autism show profound impairment in Theory of Mind (Baron-Cohen, Leslie, & Frith, 1985). Yet children with autism show no difficulties on the moral/conventional distinction task (Blair, 1996). Moreover, psychopathic adults and children with psychopathic tendencies show no impairment in Theory of Mind (Blair et al., 1996; Colledge & Blair, 2001).

It is again interesting to note that the group differences were highly specific. The high PSD scoring children were not more likely than the low PSD scoring children to permit either moral or conventional transgressions under normal rule conditions. Nor did these children judge either type of transgression as less serious. As previously observed, the group differences were only observed when the rule prohibiting the transgression had been removed and in the children's justifications of moral transgressions (Arsenio & Fleiss, 1996; Blair, 1995, 1997; Blair et al., 1995; Nucci & Herman, 1982). This is expected by the VIM model. Under normal rule conditions, the child can reason about a transgression on the basis of general knowledge independent of any emotional response to the act. For example, they can determine whether the act is permissible and its seriousness by whether it is punished and to what extent. Under modified rule conditions, general knowledge is less applicable. According to the model, the VIM is activated by representations of moral transgressions. This activation results in aversively experienced arousal. This aversive arousal maintains the sense of 'badness' of moral transgressions even in the absence of prohibiting rules as regards an individual's justifications about moral transgressions. It is

suggested that the activation of the VIM during moral transgressions results in increased attention to the victim's distress. This, in turn, increases the probability that the individual will refer to the victim's distress in their reasoning about the transgression.

This study was the first to explore the association between performance on the moral/conventional distinction task and level of behavioural disturbance. This study found significant inverse correlations between total score on the PSD, and the score on its Interpersonal and Motivational component factor, and performance on the moral/conventional distinction under modified rule conditions. Significant inverse correlations were also found between total score on the PSD, and the score on its Interpersonal and Motivational component factor, and amount of reference to other's welfare. However, no significant inverse correlations were found between score on the impulsivity and conduct disorder factor and performance on the moral/conventional distinction and amount of reference to others' welfare. The moral/conventional distinction has been considered to index the functioning of the VIM (Blair, 1995; Blair et al., 1995). If this task is indeed indexing the functioning of the VIM it suggests that the functioning of the Violence Inhibition Mechanism has a greater impact on the behaviours comprising the motivational factor of the PSD rather than the impulsivity and conduct disorder factor. This is an interesting result in terms of the model as the motivational component of the PSD has been considered to reflect the emotional deficit shown by individuals with psychopathic tendencies (Hare, 1991). The VIM is conceptualised as a basic emotion mechanism that, when impaired, would act as a risk factor for the development of psychopathy (Blair, 1995).

The third major and novel finding of the present study was that children who 'failed' the moral/conventional distinction under modified rule conditions showed significantly greater levels of behavioural disturbance according to their PSD scores than children who 'passed'. Specifically, the children who 'failed' the moral/conventional distinction, in comparison to those children who 'passed', showed a higher level of behavioural disturbance on total PSD score and both its constituent factors. If the moral/conventional distinction measure is an index of the VIM, this implies that serious dysfunction within the mechanism has serious implications for the display of anti-social behaviours. Moreover, it should be remembered that children with emotional and behavioural difficulties are a very heterogeneous group. It is conceivable that the behaviours which distinguish the groups reflect a difference between those individuals whose emotional and behavioural difficulties are due to an empathy impairment and those whose difficulties are due to an impulsivity or attentional impairment. Further research needs to investigate this.

In conclusion, previous studies have shown that groups identified because of differences in their level of behavioural disturbance differ in their performance on the moral/conventional distinction under modified rule conditions. The present study is the first to show in addition that groups identified according to their performance on the moral/conventional distinction under modified rule conditions differ in the severity of their behavioural disturbance. While the amount of variance accounted for was small, this may be the first step in developing an adequate assessment battery for children presenting challenging behaviour.

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