A COMPARISON OF EMOTIONS ELICITED IN FAIR AND UNFAIR SITUATIONS BETWEEN CHILDREN WITH AND WITHOUT BEHAVIOUR PROBLEMS

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This study compared emotions, assessed during fair and unfair situations, between children (aged 8 to 11) with and without behaviour problems, controlling for SES, depression, anxiety, IQ and educational achievement in order to study the relationship between emotional responses and subclinical antisocial behaviours. Group allocation was determined by parent and teacher reports on the CBCL and the Conners' Rating Scales. Participants imagined themselves in six scenarios (two unfair, two fair and two neutral) where they were either punished or not punished and then rated different emotions from 1 to 7. Emotions varied significantly by group depending on the type of scenario presented. The unfair scenario with a positive outcome for the participant produced the greatest group differences with the behavioural group reporting emotions consistent with antisocial theory such as less guilt, anger and fear, and more pride and happiness than the controls. The results are discussed in terms of early interventions.

Antisocial behaviour may be regarded as one of the most troubling contemporary societal problems as a fundamental characteristic of individuals with this behaviour is difficulty in conforming to social standards (Cole, Michel, & Teti, 1994). Researchers from many disciplines have examined behaviour problems from different perspectives including cognitive (Loeber & Coie, 2001), information-processing and decision-making theories (Eysenck & Keane, 1990), and social-cognitive information-processing systems (Dodge, 1980; Dodge & Pettit, 2003) in an attempt to better understand the development of behavioural and antisocial problems. Only through such understanding can we begin to intervene before the behaviours have become irreversible.

A number of studies indicate that emotions play an important role not only in influencing an individual's perceptions and cognition, but also perspective taking and formulation of goals (Crick & Dodge, 1994; Forgas, 1995). Forgas has shown that negative emotions are likely to impinge on an individual's cognitive ability and consequently can restrict their ability to search for other problem solving solutions. Hughes, Dunn, and White (1998), who studied hard to manage and non-hard to manage preschoolers and their emotions using puppets, found that the hard-to-manage group was able to identify the emotions of the puppets as well as controls when emotions could be predicted from situational cues, but less well on stories that involved affective perspective taking. Children with conduct problems have also been found to be less accurate in interpreting emotions in others (Cadesky, Mota, & Schachar, 2000). They are more likely than their peers to associate inaccurately aggressive intensions to others, and so respond with inappropriate antagonism (Dodge, 1980). Hinde (2001) postulated that the behaviour of individuals with conduct problems might be connected to a propensity to perceive equity in his or her action and behaviours when others would see the circumstances very differently. Ultimately, how children interpret and respond to socio-moral events, in particular their emotional reactions, and later how memories of these socio-emotional experiences influences future interpretations may be an important link in the development of behavioural problems (Arsenio & Fleiss, 1996; Hoffman, 1983). Therefore, an important avenue for research is to explore the relationship between emotional reactions to situations varying in levels of equity and reported behavioural problems.

Various emotional reactions have been studied with respect to fair and unfair situations. For example, Mikula and Scherer (1998) suggested anger and guilt will be the most probable emotional responses to situations that are perceived as unjust, depending upon whether the injustice is to their advantage or detrimental. They demonstrated that anger was the most likely emotional reaction to perceived unjust treatment and situations, with disgust being second. Their results as well as those of Weiss, Suckow, and Cropanzano's (1999) showed that sadness, fear, guilt, and shame featured as emotional consequences to unjust situations and that when an individual feels that he or she is treated in an unjust manner, his or her emotional reactions are likely to be more intense and powerful. Ultimately, this line of research leads to the question of how children with behaviour problems respond emotionally in comparison to children without behaviour problems in both fair and unfair situations.

The aim of the current research is to increase the knowledge and understanding of children with behavioural problems through studying their emotional responses to hypothetical events. By looking at and differentiating behaviour problem children's emotions from those of non-behaviour problem children in fair and unfair situations where they are the benefactor of injustice in some situations and the victim in others, it is hoped to gain some insight into the emotional processes of these youngsters and their subsequent behaviour. The age group selected for this study was between 8 and 11 years of age because children's social-cognitive interpretation skills and perception of emotions are recognized as becoming more multifaceted and distinct during this period (Arsenio & Fleiss, 1996). Further, a *non-clinical* population was chosen in order to determine whether emotional processing issues are present even in non-clinical ranges of problem behaviour in the externalizing domain.

Based on previous research on antisocial behaviour, three hypotheses were generated for the current study. First, children with behaviour problems would report feeling happier than children without behaviour problems when they obtained a positive outcome during an unfair situation. Second, children with behaviour problems would report more anger than children without behavioural problems in the condition in which they are punished for something they did not do. Third, children with behaviour problems would report less guilt than children without behaviour problems during the unfair scenario where they obtained a positive outcome.

Method

Participants

Fifty-four children, aged between 8 and 11 years, from the same primary school and residential area participated in this study. The children were placed in one of two groups, either the behaviour problem group (15 males, 11 females) or the non-behaviour problem group (controls: 11 males, 15 females), depending on parent and teacher ratings of the children's behaviour (measures discussed below). Two boys were not included in the analyses (see below). Consent and assent were received by parents and children respectively. Following testing, the parents and children were given a study debrief form. Children with and without behavioural difficulties (according to parental reports) were targeted to participate; however, parental observations of behaviours did not necessarily match with final group allocation (see below). During participation, it was confirmed through informal interview with the parents that no child in the study had to date been diagnosed with a DSM-IV Axis I disorder or serious medical illness.

Group Formulation Measures

Socio-economic Status: Participants socio economic status (SES) was assessed by the New Zealand Socio-economic Index of Occupational Status (Davis, McLeod, Ransom, & Ongley,

1997). It consists of a listing of most job or job types typical in New Zealand and ranking them from 10 to 100 in terms of expected monitory reward and personal status.

Depression: The Child Depression Inventory (CDI), a well validated and reliable instrument, was given to verify whether depression may account for group differences (Kovacs, 1992). The CDI is a 27-item self-report measure suitable for children aged 7 to 17 years and the higher the overall score, the greater the severity of the depression. Any child with a T score over 65 is a suitable candidate for child mental health services due to the possibility of clinically significant problems with depressed affect (Kovacs, 1992). In this study, none of the participants' CDI scores reached a level of clinical concern.

Anxiety: The Revised Children's Manifest Anxiety Scale (RCMAS) was given to participants to ensure that one group did not consist of more anxious children than the other and thereby confounding the results of this study. The RCMAS consists of 37 self-report statements (e.g., *I have trouble making up my mind*) that have been designed to evaluate the intensity and nature of anxiety in children aged between 6 and 19 years of age with age appropriate norms provided (Reynolds & Richmond, 1978). A higher score indicates greater anxiety. Four subscales are built into this measure: physiological anxiety, worry/oversensitivity, social concerns, and lie. The construct validity of this scale has been supported by Reynolds (1982).

Estimated intelligence: The Wechsler Intelligence Scale for Children – Third Edition (WISC-III) was used as an estimate of IQ and assessed using the block design and vocabulary subtests (Wechsler, 1991). The IQ scores were then compared to Periodic Achievement Tests (PAT) scores obtained from the school. PAT tests are carried out at regular intervals throughout all New Zealand schools to assess academic achievement and are normed for the appropriate age and year level of the child. This allowed for verification that there were no obvious deficiencies in the participants' potential and actual performance, which could have been suggestive of a learning disability.

Behaviour: The Child Behaviour Checklist (CBCL) is a well validated measure designed to screen for children who exhibit behaviour problems. It is a detailed 113 statement, parent-report questionnaire that consists of nine syndrome scales that are further grouped into two broadband factors: internalising (e.g., depression and anxiety) and externalising (e.g., delinquent and aggressive behaviour). Separate norms for this measure are available for male and female children aged 4 to 18 years (Achenbach, 1991).

Two of the Conners' Rating Scales – Revised were also used as measures of behaviour: the Conners' Parent Rating Scale and the Conners' Teacher Rating Scale (Conners, 1997). There were six behavioural subscales of interest in this study: oppositional, cognitive problems/inattention, hyperactivity, anxious-shy, perfectionism, and social problems. The parent scale is an 80 item self-report questionnaire and the teacher scale is a 59 item self-report questionnaire. Norms for boys and girls aged 3 – 17 are available for all Conners' Rating Scales (Conners, 1997).

Inclusion criteria for the behavioural group: A T-score above 65 from *either* the parent or teacher's responses on the oppositional subscale of the Conners' rating scale *or* a T-score above 65 on *either* of the externalising subscales of the CBCL. The rationale for taking the higher score from either the parent or the teacher was to avoid the possibility of missing behaviour problems manifested in different settings. Research has shown that the level of agreement between parents and teachers is not very high, with correlations ranging from .30 to .50 depending on the behavioural dimensions being rated (Achenbach, McConaughy & Howell, 1987). This suggests either different expectations from raters (Eisenberg, Fabes, & Losoya, 1997), or that children may behave differently in various settings. Because this study

was interested in children displaying behaviour problems in any setting, the higher score was used to indicate the existence of problem behaviour.

Inclusion criteria for the control group: A T-score below 60 on both the parent and teachers responses on the oppositional subscale of the Conners' rating scale *and* a T-score below 60 on both of the externalising subscales of the CBCL.

Exclusion criteria: 1) An estimated IQ below 85, and 2) a T score falling in between 60 and 65 on either the Conners scales *or* the CBCL. Two participants were excluded due to this latter criterion.

Dependent Measures

Six scenarios were developed for this research, depicting fair, unfair, and neutral situations in a school setting. Scenario One described the participant in the study and an acquaintance in a classroom and the participant does something wrong and is punished for it. This was the fair condition where the participant is punished and the acquaintance is not punished. Scenario Two described the same two children, but this time the acquaintance does something wrong and is punished. This depicted the fair condition where the participant is not punished and the acquaintance is disciplined. Scenario Three outlined a school setting where the acquaintance breaks a rule and the participant is punished for it. This was the unfair condition where the participant is punished for something he or she did not do and the acquaintance, who is the perpetrator, is not punished. Scenario Four was also an unfair condition, but the participant was not punished. In this scenario the participant was the perpetrator who breaks the rule and the acquaintance punished. Scenario Five and Six were neutral conditions, where nobody knows who has broken the rule. Scenario Five depicts the entire class being punished and Scenario Six depicted nobody being punished. The unfair/negative scenario was as follows: *You and Mike/Mary are in the classroom playing and Mike/Mary breaks a chair. The teacher comes in and blames you. The teacher tells you that you must stay in for half of your lunchtime to write out of the dictionary. When you do go into the playground, Mike/Mary is playing happily with the others*. The other scenarios were of similar nature with the event and outcome modified. Mike was used with male participants and Mary used with the female participants.

A manipulation check on the level of fairness was conducted for each of the scenarios: a class of 28 year 7 students (11-12 year olds) were given each of the scenarios to read and then asked to rate the fairness of each one on a scale of 1 (not at all fair) to 7 (extremely fair). According to the ratings, Scenario 1 and 2 (the fair scenarios) were deemed fairer than Scenario 3 and 4 (the unfair scenarios). As expected, the means of Scenarios 5 and 6 fell between the fair and unfair scenarios. The means were tested with a one-factor ANOVA that showed that a significant difference existed between them, F (2, 165) = 150.8, $p < .01$. Post hoc testing using Tukey's method ($p < .05$) revealed all three means (Fair scenario: 6.1 (1.17), neutral: 4.6 (2.21), unfair: 1.3 (0.55)) were significantly different from one another.

The Emotion Questionnaire: An emotion questionnaire was used to assess the strength of various emotions of each participant following imagining being an actor in each of the scenarios. The emotion questionnaire was adapted for this research based on a detailed description provided by Weiss et al. (1999) from their study on the effects of justice conditions on discrete emotions. This research was originally based on Shaver, Schwartz, Kirson and O'Connor's (1987) groupings of over 200 emotion words. Using their work as a foundation, a short inventory of principal emotions, both target emotions and fillers, were selected for the questionnaire. Following Weiss et al.'s study, each emotion was preceded by the investigator asking the child to rate how much he or she felt that way on a scale of 1 (not at all) to 7 (extremely so). As well as the target emotions for this research (happiness, pride, anger, guilt, and fear), other emotions such as relief and embarrassment were included in order to decrease the demand characteristics of the emotions in the questionnaire.

If the child was unsure what was meant by an emotional word used in the questionnaire, the meaning was given. Each target emotion had a number of emotional words loading on to it. For example, the words loading on to guilt were guilt, sorry, sheepish, and worried. For pride the loading words were satisfaction, pride, triumphant, and success; for happiness, the words were joy, happiness, cheerfulness, and glad; for anger the loading words were anger, mad, annoyed, and rage. Fear only had one word, which was scared.

Procedures

Each participant listened to all six scenarios on audiotape. The order of presentation was randomised to ensure that story order was not a confounding variable. Prior to listening to each scenario, every participant was instructed to take the perspective of the actor referred to as *you*. Participants were given one of the scenarios, followed by the emotion questionnaire and then completed one of the other measures, such as the CDI or the RCMAS, before going on to the next scenario, providing a distraction between one scenario and the next. The length of time to collect data from each participant varied from 45 minutes to 1 hour and 30 minutes with some participants requiring breaks. This research was conducted in the participants' homes to ensure that all children were tested in a familiar environment. The child's primary caregiver was asked to fill out the Connors' and the CBCL at the same time as his/her child was partaking in the study; the teachers filled in the Connors' scales several weeks later.

Results

Sample characteristics: No group differences were found in depression, IQ, age, SES, anxiety, and School PAT tests for Maths, Listening, Reading Comprehension, and Reading Vocabulary. Covariance was therefore not necessary. Comparisons were also made across gender by collapsing the two groups (behavioural and non-behavioural) and no gender differences were obtained on any of the scenarios and therefore sex differences were not considered any further. Table 1 illustrates the means and standard deviations, *t* tests and effect sizes across groups for these variables. Taken together, this information suggests a similar developmental context for the participants in each group.

Table 1
Sample Characteristics .

Variable	NC: Mean (SD)	Behavioural: Mean (SD)	*t*-values (1, 50)	Cohen's *d*
Age	9.7 (1.2)	9.5 (1. 3)	0.45	.16
Estimated IQ	114.7 (11.8)	111.6 (12.5)	0.92	.26
Anxiety (T scores)	42.6 (8.3)	47.3 (9.7)	-1.83	.52
Depression (T scores)	42.7 (5.3)	46.2 (7.2)	-1.94	.55
SES (10-100)	59.7 (8.8)	61.0 (12.6)	-0.44	.12
PAT Maths (%ile)	76.4 (21.2)	74.7 (20.9)	0.27	.08
PAT Comprehension (%ile)	74.9 (22.1)	67.6 (24.1)	1.12	.32
PAT Vocabulary (%ile)	74.6 (20.2)	64.0 (23.4)	1.71	.48
Conners Ratings (T scores)				
Oppositional: P	47.9 (5.3)	65.3 (1.7)	-7.30**	4.42
Oppositional: T	47.8 (3.5)	57.0 (9.5)	-4.53 **	1.28
Emotional Lability: P	48.3 (7.1)	59.6 (9.2)	-4.87 **	1.37
Emotional Lability: T	47.0 (3.0)	51.2 (5.9)	-3.12 **	.90
CBCL (T scores)				
Aggressive Behaviour	50.2 (1.2)	56.9 (5.5)	-5.86*	1.68
Delinquent Behaviour	51.4 (2.8)	60.0 (8.1)	-4.98*	1.41

P = parent, T = teacher, * $p < .05$, ** $p < .01$

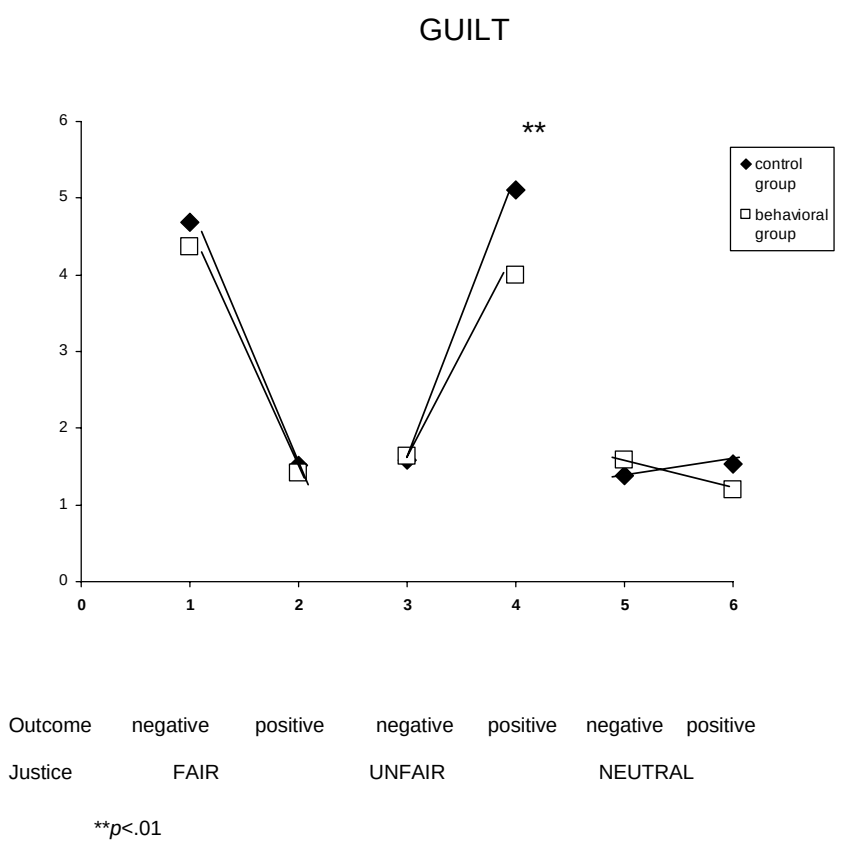
As can be seen from Table 1, there were significant differences between the two groups for oppositional behaviour on the Conners Rating Scales. As well as these differences being statistically significant, the behaviour problem group also had a mean T score that was

clinically significant (T > 65). As expected, other factors on the Connors Rating Scale yielded significantly different results; however, none of these means was near the clinically significant range. On the CBCL, apart from Aggressive and Delinquent behaviour, none of the other factors yielded significant differences between the two groups. Given these two subscales were used in group allocation, these differences were expected.

Dependent variables: Each dependent variable (guilt, pride, happiness, anger, and fear) was analysed with a 3-way Group (behavioural, control) x Justice (fair, unfair, neutral) x Outcome (positive or negative for participant) ANOVA with repeated measures on the first factor. Wilks' lambda was the statistic interpreted.

A significant between group difference was found, (F (5, 46) = 3.375, p < .05), and within subject differences were found on outcome (F (5, 46) = 103.42, p < .001), outcome by group (F (5, 46) = 4.289, p < .01), justice (F (10, 41) = 31.606, p < .001), justice by group (F (10, 41) = 2.545, p < .05), and outcome by justice (F (10, 41) = 31.40, p < .001). The interaction of outcome by justice by group was not significant (F (10, 41) = 1.548, p = ns). Many of these within subject differences were expected in that emotions vary depending on the type of scenario presented to the participant and whether the scenario had a positive or negative outcome for the participant

Figure 1. Participant mean responses across the six scenarios for guilt.



**p<.01

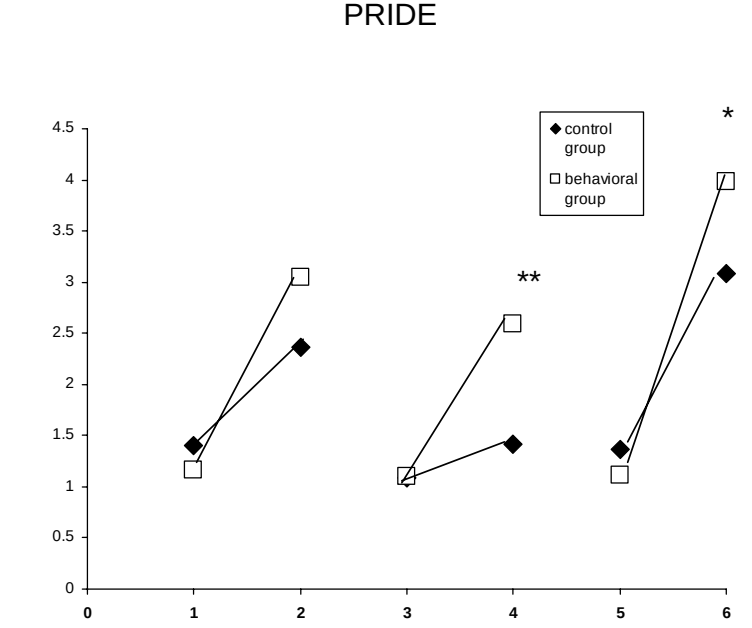
The univariate results revealed that for the emotions fear (F (2, 100) = 4.537, p < .05), happiness (F (2, 100) = 7.556, p < .01), and anger (F (2, 100) = 3.23, p < .05), there were significant interactions between the fairness of the scenario and group. Further, it was also

found that the emotions of pride (F (1, 50) = 9.307, $p < .01$), guilt (F (1, 50) = 6.122, $p < .05$), happiness (F (1, 50) = 15.143, $p < .001$), and anger (F (1, 50) = 19.223, $p < .001$) varied by group depending on whether the outcome was positive or negative for the participant. These emotions across the six scenarios are depicted in Figures 1-5.

To further explore the relationships described above and to determine in which scenario specific emotions varied by group, a MANOVA was conducted for each emotion across the six scenarios.

Guilt: As the overall MANOVA was marginally significant (F (6, 45) = 2.136, $p = .06$) in addition to the significant interaction noted above, the univariate analyses were interpreted. In the unfair situation with the positive outcome, children with behaviour problems reported significantly less guilt, F (1, 50) = 8.608, $p < .01$, than control children.

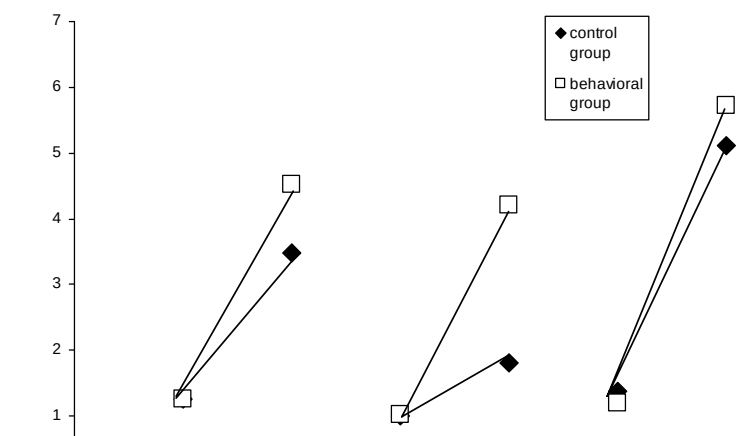
Figure 2. Participant mean responses across the six scenarios for pride.



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

Pride: The overall MANOVA was significant (F (6, 45) = 3.531, $p < .01$). In the unfair situation with the positive outcome, the children with behavioural problems reported significantly more pride, F (1, 50) = 10.98, $p < .01$. In the neutral situation with a positive outcome, children in the behavioural group experienced more pride in this scenario, F (1, 50) = 4.104, $p < .05$.

Figure 3. Participant mean responses across the six scenarios for happiness.

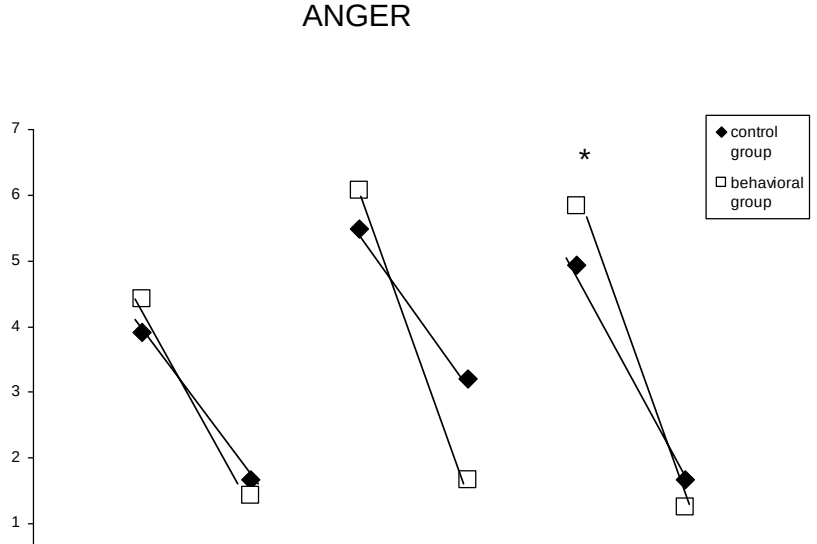


Happiness: The overall MANOVA was significant (F (6, 45) = 5.071, $p < .001$). In the fair scenario with a positive outcome, group differences were found for happiness, F (1, 50) = 5.095, $p < .05$. The children in the behavioural group reported being significantly happier about the positive outcome described in Scenario 2 than those in the control group. In the unfair situation with the positive outcome, the children with behavioural problems reported significantly more happiness, F (1, 50) = 29.33, $p < .001$.

Anger: The overall MANOVA was significant (F (6, 45) = 4.613, $p < .001$). There were a number of interesting interactions occurring with reports of anger. In the unfair situation with a negative outcome, a trend was noted, F (1, 50) = 4.327, $p < .1$, with the children in the behavioural group reporting higher levels of anger than those in the control group. In the unfair situation with the positive outcome, the children with behavioural problems reported significantly less anger than those in the control group, F (1, 50) = 30.769, $p < .001$. In the neutral situation with a negative outcome, children in the behavioural group reported more anger than those in the control group, F (1, 50) = 10.395, $p < .05$. In the neutral situation with a positive outcome, while the control group reported more anger, F (1, 50) = 2.434, $p < .05$, neither group scored on average more than 2 on this measure.

Fear: The overall MANOVA was not significant (F (6, 45) = 1.550, $p = .18$ and therefore, the univariate results were not interpreted.

Figure 4. Participant mean responses across the six scenarios for anger.

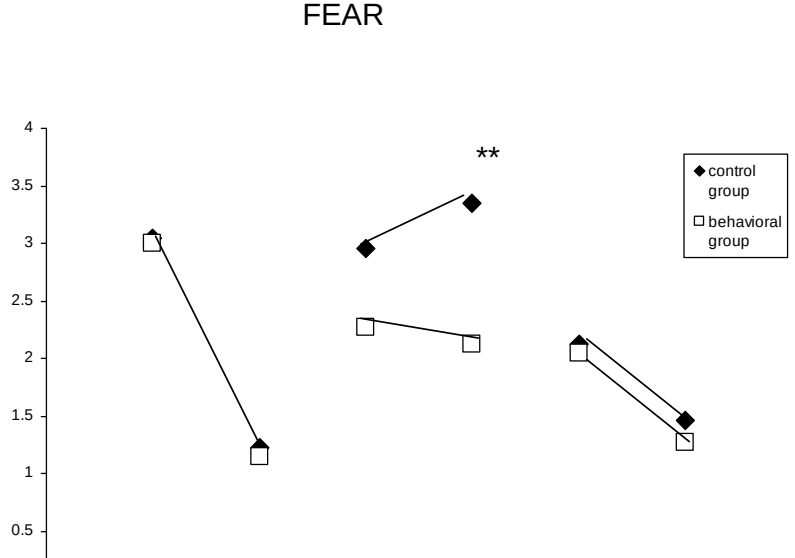


Discussion

This research examined the differences in emotions experienced by children identified as having behaviour problems in comparison to those without behaviour problems while imagining themselves in fair, unfair, and neutral school situations with either positive or negative outcomes in terms of punishment. A strength of the study was that a number of confounding factors were assessed and were not found to impact on the results (age, depression, SES, anxiety, gender, IQ and achievement scores), strengthening the interpretation that elevated behaviour problems in children may lead to the different intensities of emotions reported in situations of inequity. Overall, sex differences were not found and therefore gender was not deemed to be a factor influencing the pattern of results. Further, within subject differences we would expect to find were present providing evidence for the validity of the results, including children reporting differences in emotions depending on whether the outcome for the participant was negative or positive or whether the situation had been unfair, fair or neutral.

Many group differences and interactions were found across the six scenarios. The behavioural group reported significantly more happiness than the control group in both the fair/positive outcome scenario and in the unfair/positive outcome situation. Relatedly, the behavioural group also reported significantly less guilt in the unfair/positive outcome scenario. Although anger was higher for both groups in the unfair/negative outcome scenario (i.e., where the participant was punished), the behavioural group reported more anger than the control group. Conversely, for the unfair/positive outcome scenario, anger and fear were lower in the behavioural group. Similarly, the behavioural group reported less anger for the neutral/negative outcome scenario. In contrast, in the neutral/positive outcome scenario, the

Figure 5. Participant mean responses across the six scenarios for fear.



behavioural group reported more anger and pride than the control group. These results are supporting the hypothesis that emotional responses to situations of inequity vary depending on the presence/absence of externalizing behaviours in the natural environment.

As predicted, ratings of happiness were significantly higher for the behavioural group in the unfair/positive outcome situation and support recent research finding that behavioural disruptive adolescents expect to feel happier following proactive acts of aggression (Arsenio et al., 2004). The control group, on average, reported no happiness at all in this situation, while the responses of the behavioural group yielded a mean in the mid to upper range of the scale. These results suggest that the control group were not able to feel happy in these circumstances despite not being punished. This may be due to guilt, which the control group reported as higher than the behavioural group in this particular scenario. Similar to other research (e.g., Lochman, Wayland, & White, 1993), it appears that the children with behavioural problems are less perturbed by the plight of another, even when the other party is being blamed for what they have done.

As expected, both groups reported more anger in the unfair/negative scenario, consistent with the justice research, equity theory in particular. Equity theory holds that when an individual perceives that they have been treated in an unjust manner, such as being punished for something that he or she did not do, it is likely to lead to negative emotional states of distress, such as anger. These negative emotional states may act as motivational factors that encourage the individual to attempt to equalize the inequity (Adams, 1965). We also predicted and found that anger would be even higher in the behavioural group because it is considered a dominant emotion in individuals with Conduct Disorder (CD) as such individuals are biased towards perceiving the world as a hostile place (Arsenio et al., 2004; Cole et al., 1994; Dodge, 1980). Also, individuals with behaviour problems are typically more sensitive to negative events

(Rutter & Quinton, 1984; Thompson, 1986). The significantly greater reporting of anger for the unfair/negative scenario by the behavioural group brings into question how children with behavioural problems go about restoring the inequity in comparison to nonbehavioural problem children. Anger and other negative emotions have been found to impinge on an individual's cognitive ability and subsequently can restrict their ability to search for alternative solutions, thus raising the probability of making antagonistic attributions of others (Forgas, 1995).

Pakaslahti (2000) suggested that anger and aggression are quite easy solutions for any individual to retrieve from the long-term memory because less direct solutions, while more desirable, are harder to generate. Individuals who are more adjusted in comparison to those who are less well adjusted are postulated to be less satisfied with this first solution that they produce. These individuals are further able to imagine alternative solutions and come up with a variety of choices in order to make a number of potentially effective behaviour responses.

For the unfair/positive outcome scenario, the control group rated anger significantly higher than the behavioural group. Although anger is more consistent with those displaying problems associated with their conduct, in this particular situation it is not surprising that the results are reversed. Dominance and revenge are high on the social agenda of boys who are prone to aggression and the demise of a peer for something that such an individual had done themselves would be unlikely to invoke feelings anger. The anger experienced by the children in the control group is possibly due to them feeling anger toward themselves or anger at the inequity to the situation.

We also expected guilt to be lower for the behavioural group in the positive/unfair outcome scenario. The mean guilt rating for this scenario was around the mid range and, as expected, significantly lower than the control group with a mean score in the higher range. It is not surprising that the guilt level was lower for the behavioural group because diminished guilt and anxiety, relating to wrongdoing of causing of harm to others, are defining characteristics of antisocial individuals (Cole et al., 1994). Along similar lines, the behavioural group also reported more happiness than the control group in the fair/positive outcome scenario. This may have been due to the control group displaying a level of empathy for the friend who was being punished, even though he/she had actually deserved the punishment. If more empathy on the part of the control group is the reason for this result then it is consistent with research that has revealed children who score high on empathy are less likely to engage in aggression and more likely to engage in prosocial behaviour (Eisenberg & Fabes, 1998).

Guilt is an emotion that has been implicated in disorders such as depression and anxiety and as such is often depicted as unhelpful. Conversely, Hoffman (1983) argued that it is not only prevalent in society but also often socially beneficial when it is related to guilt over harming others. Although he acknowledged guilt has a self-critical component, he labelled guilt over harming others "empathic distress" and described this as not only an emotion but also as a motivational force due to an empathic reaction to someone else's distress and the consciousness of being the cause of that distress. In order for an individual to experience the feelings associated with guilt he or she must possess the awareness of the harmful effects that behaviour has on others and that he/she has been the agent of the harm. This requires the ability to make causal inferences involving one's own action and the change in emotional state or circumstances of another (Hoffman, 1983). The lower level of guilt experienced by the behavioural group in comparison to the control group suggests that the behavioural group was less aware of the harmful effects of some behaviours or did not make the required causal attributions linking their actions to the circumstances of the other party.

Finally, the behavioural group reported significantly more pride than the control group in the unfair/positive outcome scenario, consistent with social goals that are highlighted as important for aggressive boys by Lochman and colleagues (1993). Likewise, the behavioural group rated pride significantly higher than the control group in the positive neutral scenario. This could be due to no one being punished for the misdemeanour and the behavioural group may have been proud of themselves for not being punished even though they were innocent.

Although the results have thus far been discussed in terms of single emotions, emotional dysregulation associated with psychopathology does not necessarily involve a single emotion; rather the dominance or absence of a single emotion reflects a state of dysregulation in the overall emotion system (Cole et al., 1994). The existence of more than one emotion suggests patterning of emotions, where each emotion retains its inherent organisational and motivational properties while also being moderated by the other emotions and having a combined effect on behaviour (Izard, Ackerman, Schoff, & Fine, 2000). For example, Izard and colleagues suggested that anger may occur simultaneously with fear because anger may ease the intensity of the fear experience. Cognitions and subsequent actions stimulated by fear tend to result in avoidance, whereas anger cultivates approach tendencies and confrontation. This anger/fear connection was supported in the current study; for example, the control group reported significantly more anger and fear than the behavioural group in the unfair scenario where someone else was punished for their misdemeanour.

Lack of guilt along with increased anger that was characteristic of the behavioural group lend support to the proposition by Lambert, Wahler, Andrade, and Bickman (2001) that these emotions characteristic of individuals with CD possess reinforcing and maintaining powers. This process can be somewhat cyclical. For example, anger may influence the behaviour in the first place and then the absence of guilt and the subsequent lack of unpleasant punishing feelings often associated with guilt may help maintain it. When an emotion that is deemed appropriate in a particular situation in inaccessible it is likely to be an indication that some fundamental, adaptive function is blocked. Cole and colleagues (1994) postulated that the domination of a particular affect, such as anger or sadness, may block or mask the ability to experience other, more appropriate emotions. Thus, in order to access a range of emotions, an individual may need to learn to control the dominant emotional reaction. This study has verified that these patterns of emotions can be identified at a fairly early age *before* the development of Conduct Disorder per se and may be important factors leading to the externalizing behaviours typical of antisocial individuals.

A review by Izard (2002) about emotional theory and preventative interventions suggested that with few exceptions, the current approaches to the treatment of children with problem behaviours do not integrate concepts of emotions as organizing and motivational factors that can aid behavioural modification and the development of social and emotional competence. The current research provides evidence that behaviour problem children do experience emotions at different levels of intensity in certain situations as compared with nonbehaviour problem children, suggesting that prevention and intervention techniques could be designed to utilize the motivational and adaptive features of the various emotions.

Also useful in treatment may be emphasizing positive emotions that may be present. When programs work solely on controlling negative emotion, they overlook the possibility that frequently inducing positive emotions could actually boost an individual's well being as well as moderating negative emotions and their harmful effects on self control (Izard, 2002). Emotion-centred preventive interventions have previously been shown to benefit the development of emotion-based moral reasoning and positive social behaviour of toddlers (Denham, 1986), and therefore such methods could be adapted for older children.

Limitations and future directions

A limited number of participants were used and as a result, restricted the ability to study a number of possible subgroups such as age, culture, and diagnosis (e.g., anxiety or depression). Furthermore, it may also have been useful to establish the affective state of the parents and parenting attitudes given than they have a large influence over the attitudes and feelings of their children (Caspi et al., 2004). It also cannot be ruled out that both groups of children responded with similar emotions; however, the control group was simply better at giving socially desirable responses. Future research could assess individual in multiple settings, rather than just school settings. The current study only looked at a limited number of emotions, which may not give an accurate indication of what goes on emotionally for children in fair and unfair situations. Future research may look at the whole range of emotions and encourage participants to express how they would feel without being prompted by a defined set. While we attempted to prevent carry over effects by administering questionnaires between scenarios, we cannot conclude that emotions were not carried from one scenario to the next. However, given the significant differences in emotions among scenarios, it is likely that the children successfully separated the different scenarios.

The current study described the other individual in the scenarios as an acquaintance. This does not address whether the participant would have different emotional responses depending on whether the other party was a close friend as compared to just an acquaintance or to someone they disliked. Research has already suggested that in experimental settings, children are more emotionally responsive and more prosocial to a friend than an acquaintance (Dunn, Brown, & Maguire, 1995). During the assessment, behavioural displays such as facial expressions or gestures were not recorded. Such information may have provided additional information about the actual emotional experiences of the participants. Also, this study did not address why the participants experienced the emotions they did. Future research would benefit from including questions about what thoughts and cognitions the participant was having, which may have impacted on the responses.

While this research can offer insight into the CD area, the participants in this study were selected based on possible presence/absence of behavioural disturbances but not on a specific diagnosis per se and therefore the results cannot be generalized to children diagnosed with CD. Future research would benefit from using a clinical sample of participants who have been diagnosed with CD and/or ODD, expecting even stronger group differences than those found in this study.

This research supports the inclusion of emotion knowledge in early interventions (Izard, Trentacosta, King, & Mostow, 2004) and has implications for including emotionally-related treatment into any program designed to reduce the unacceptable behaviour of those children and adolescents with behaviour problems. Although a number of future directions are suggested, it appears that the strongest message is that a different set of emotional reactions are present in individuals who are beset with behaviour problems and that intervention in this area may prove to be efficacious. Furthermore, parents, teachers, and other significant adults in the lives of these children may benefit from better understanding the role that emotions play in the behavioural reactions of these children. If the adults involved in the lives of young children are able to work with at risk children in terms of their emotional and cognitive responses, then it may be possible to reduce the number of children who end up on the ODD–CD–Antisocial personality disorder trajectory.

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