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**Peer Relations and Emotion Regulation of
Children with Emotional and Behavioural
Difficulties With and Without a Developmental
Disorder**

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Abstract

Children with emotional and behavioural difficulties (EBD) or developmental disorders, such as Attention Deficit Hyperactivity Disorder (ADHD) or Autism Spectrum Disorder (ASD) can experience the same adverse consequences in their peer interactions and relationships. This present study compared the emotion regulation and peer relationships of children aged 8 to 12 years ($M = 9.86$ years, $SD = 1.49$) with EBD ($N = 33$) and children with EBD plus a diagnosed developmental disorder ($N = 28$). Multivariate analysis of variance (MANOVA) with Bonferroni adjusted alpha levels revealed no significant main effect for emotion regulation according to EBD status. There was however, a multivariate main effect for sex with females presenting with higher levels of negative emotional intensity (e.g., frustration, anger, aggression) than males. A second MANOVA revealed no significant main effect for peer relationships according to EBD status and sex. Significant correlations revealed that the EBD only group experienced greater adverse peer interactions than the EBD plus developmental disorder group. These findings are important for educators and researchers involved in the development and evaluation of prevention and intervention programs for children with EBD.

Introduction

Children with emotional and behavioural difficulties (EBD) are more impulsively emotional and less able to regulate their behavioural responses to emotionally provoking events than children without EBD (Cross, 2011). This differentiation is important because research clearly demonstrates that children's emotional responses overall, play a critical role in normal social development and appear to mediate psychopathological difficulties (Melnick & Hinshaw, 2000). Few studies, however, have systematically examined the emotional responses and peer interactions of children with EBD. Such research is crucial because the formation of peer relationships is an important developmental factor, as it is understood that an inability to form positive relationships, combined with sustained deficits in regulatory behaviours, may form the precursors to later antisocial adult behaviour, and lead to the development of more chronic mental health concerns (Vitaro, Brendgen, & Wanner, 2005). Despite an extensive search of the literature using PsychLit, Austrom, ERIC, and Proquest, examinations of peer relationships of children with EBD within the area of emotion regulation has received minimal investigation. With this in mind, the present research investigated the relationship between peer interactions and emotion regulation in children with EBD.

The Literature

Although Pirrie, Rydzewska, and Macleod (2011) argued about the lack of conceptual clarity in the area of EBD in a recently argued position paper, Fovet (2011) examined the concept and working definition of EBD from a number of perspectives. This included the UK government's position that children with EBD are those who as a result of hitherto undefined factors require additional resources to meet their emotional and behavioural needs. In this definition, serious mental illness was excluded. The US educational legislation employs a similar definition (see Kauffman, 2010). A point of contention in these definitions is however, that large numbers of young people present with difficult behaviour and as such it is the

severity of the behaviour and period of manifestation that is important in a definition, rather than the presentation only (see Fovet, 2011).

Forness and Kavale (2000), Kauffman (2005), and Spratt, Shucksmith, Philip, and Watson (2006) support this contention and argue that to determine the distinction between ‘occasional withdrawn or disruptive behaviour’ and EBD depends on factors such as the severity, complexity and persistence of problems, developmental stages of children, the presence or absence of a range of risk and protective factors, and the presence or absence of stressful social and cultural factors. Therefore, a conclusive definition of EBD has remained problematic and the distinction between what constitutes EBD and what is a clinical diagnosis, or even whether the two are inseparable has remained vague at best.

Nonetheless, research clearly demonstrates that students with EBD are typically hyperactive, lack concentration, present with severe challenging behaviours, are disruptive and disturbing, and consequently are highly likely to disrupt the learning environment (Cole, Daniels, & Visser, 2003; SEN Code of Practice, DfES, 2001). Follow-up studies of young people with EBD conducted in Europe and the US indicate that these individuals obtain lower school grades, fail more courses, experience higher rates of retention in grades, and drop out of school earlier than other disability groups and the general population (see Hornby & Witte, 2008). Children and adolescents with EBD are also known to have difficulties in their relationships with peers and adults in schools (Diener & Milich, 1997; Poulou, 2005; Visser & Dubsy, 2009). Furthermore, on leaving school these young people are less likely to be employed and for those who do obtain employment, they frequently leave the jobs they get (Hornby & Witte, 2008).

In Australia, EBD is a relatively new concept, which is somewhat surprising given that up to one young person in five from the general population has an emotional disorder at some time in their childhood (Bayer & Sanson, 2003). Figures are difficult to gain in the Australian context, however, due to the lack of understanding and use of EBD in practice. School

personnel and clinical professionals have difficulty recognizing and identifying students with EBD for a variety of reasons, including personal philosophy, definitional imprecision and pragmatic concerns (Kauffman, Brigham, & Mock, 2004). Consequently, there are few studies that have included children with EBD even though there is an overlap among definitions of EBD and those applied to children with mental health problems and clinically diagnosed neurodevelopmental disorders. For example, children with Attention Deficit Hyperactivity Disorder (ADHD) are often depicted as having many EBD traits, such as difficulties in inhibitory control (Barkley, 2006).

In the present study, the term EBD referred to emotional and/or behavioural difficulties which interfered with the child's learning, social functioning and development and/or that of his or her peers, and which necessitate some form of additional support to address the needs emanating from these difficulties (Cefai & Cooper, 2006). It has been acknowledged that in any definition of EBD, context is a key issue. The idea of social context is in itself enormously complex and considering this alone would be extremely limiting in what it might produce (Cooper, 2008). Similarly, considering EBD via the medical model alone, in which the outward manifestation of biological imbalances are seen as abnormal behaviour (Barkley, Cook, Diamond, et al., 2002), is also extremely limiting. For example, many children with ADHD (the most pervasive neurodevelopmental disorder in children in their schooling years: see Barkley & Murphy, 2006; Woo & Keating, 2008) are excluded by peers because of the difficulties they experience in their emotional regulation when interacting with peers. This type of exclusion is also often seen in children who are gifted. As argued by Fovet (2011), at times both of these groups are diagnosed as EBD because they display identical behaviours and experience the same levels of peer relationship difficulties. Thus, the interactions between the contextual, biological, and psychological factors operating at the level of the individual must be taken into account (Cooper, 2008).

To address these issues, children classified as EBD and also children classified as EBD

but who had also been formally diagnosed with a developmental disorder (e.g., ADHD, ASD) were recruited in the present study. Children with EBD and/or developmental disorders are known to present with difficulties in emotion regulation. This is often witnessed in the classroom context via high levels of emotional regulation intensity (Carroll, Houghton, Taylor, West, & List-Kerz, 2006). Emotion regulation (ER) refers to the ability of individuals to identify, understand, and integrate emotional information while managing their behaviour in line with their interpersonal (i.e., social) and intrapersonal (i.e., personal) goals (Zeman, Cassano, Perry-Parrish, & Stegall, 2006).

The capacity to regulate emotions is crucial to one's well-being, sense of self-efficacy, and successful communication with others (Saarni, 1999). Impairment of ER causes problems with the interpretation of social cues and impacts on functioning both at home and at school (Hester, Baldodano, Gable, Tonelson, & Hendrikson, 2003). In the case of children with EBD, emotional outbursts that are often aggressive or involve withdrawal (Achenbach & Edelbrock, 1991; Dodge, Pettit, McClaskey, & Brown, 1986) impact heavily on their ability to initiate and maintain friendships (see Eisenberg, Cumberland, Spinrad, Fabes, Shepard, Reiser, et al., 2001; Hessler & Katz, 2007; Zeman, Shipman, & Suveg, 2002). Thus, it is not surprising that they tend to be rejected by peers and appear likely to remain unaccepted by them, particularly if they enter different or new settings (Asher & Dodge, 1986; Coie & Dodge, 1983).

It is well established that rejected children are more likely to experience severe adjustment difficulties later in life (Achenbach & Edelbrock, 1991; Coie, Lochman, Terry, & Hyman, 1992) and have more problematic academic and socio-emotional adjustment issues (Vandell & Hembree, 1994). The inability to maintain positive peer relations is also felt later in life, with research showing consequent academic difficulties, delinquency, violence and aggression, and more severe and complex mental health disorders (Bagwell, Schmidt, Newcomb, & Bukowski, 2001; Bronson, 2000; Hoza, Molina, Bukowski, & Sippola, 1995).

Substantial numbers of school-aged children (10 to 20%) present with a cluster of EBD over a prolonged period of time in the home and school environments that can, in many cases lead to significant impairment in educational and social development (Cooper, 2001). However, only a small number of studies have investigated children's ER and their peer relationships (Eisenberg et al., 2001; Hessler & Katz, 2007; Zeman et al., 2002) and it appears that few, if any, have been with children with EBD. From mainstream samples, it has been reported that girls are more inclined to substitute one emotional display for another (this leads to social acceptance by other girls, but not by boys) whereas boys' abilities to use emotional expressions in a neutral rather than negative manner appears to lead to greater acceptance by other boys and girls (Young & Zeman, 2003). Thus, there is a significant gap in the EBD literature pertaining to emotion regulation and peer relationships, especially where those with EBD also have a diagnosis of a developmental disorder.

Research Context

The research was conducted in eight primary schools (six state and two private schools) in the metropolitan area of Brisbane, the capital city of Queensland, Australia. In Queensland, all state schools are required to have an approved Responsible Behaviour Plan for Students that articulates a range of responses including whole school, targeted and intensive behaviour support as a means of facilitating positive learning and responsible behaviour in students. Within the Queensland education system, there is coordinated multi-agency assessment arrangements for students with EBD. For example, students with EBD have access to guidance officers, social workers, community welfare workers, youth workers, psychologists and teacher aides (Queensland Department of Education, Training and Employment, 2012). For the majority of students with EBD, support is provided within the mainstream school setting. In a minority of cases, the child with EBD may be referred to a positive learning centre, which are staffed by educators with specialist training in the management of EBD.

Where an additional mental health issue (e.g., ADHD, ASD, Anxiety) is identified through the multi-agency assessment, the child is referred for further specialist assessment and treatment (e.g., paediatrician, child psychiatrist, clinical psychologist).

The aim of the present study was to investigate the (i) differences in emotion regulation, (ii) differences in peer interactions, and (iii) relationships between emotional intensity and peer interactions in children with EBD with and without a formally diagnosed developmental disorder.

Method

Participants

The total sample comprised 61 (40 males and 21 females), Years 3 to 7 children aged 8 to 12 years, ($M = 9.86$ years, $SD = 1.49$). All 61 children had been identified on the basis of teacher and parent reports of experiencing significant emotional and behavioural difficulties in the classroom and at home, on a frequent and consistent basis (i.e., multiple times throughout the week and/or on a daily basis over a period of the past six months). Of the 61, 28 had received a formal diagnosis by a primary care physician or developmental paediatrician for a developmental disorder (i.e., 12 had a diagnosis for ADHD, 9 for ASD, 6 for anxiety or depression, and 1 for ODD). Table 1 provides a descriptive overview of the sample according to their diagnosis, gender, and grade level.

Although the EBD only group expressed very low levels of behaviours/symptoms compatible with a developmental disorder, none of the individuals within this group met the criteria for a formal diagnosis. Therefore, the total sample comprised two discrete groups who differed in their profiles.

<Insert Table 1 here>

Instrumentation

Two instruments were administered to the children. *The Emotional Intensity Scale for Children (EISC)* (Braaten & Rosen, 2000) is a 33-item self-report instrument that requires

children to select one of five choices that describe emotions to experiences familiar to them. Eleven items measure positive emotions (e.g., happiness, playfulness) and 22 items measure negative emotions (e.g., frustration, anger) where higher scores indicate greater intensity. The EISC is based on the Emotional Intensity Scale developed for adults by Bachorowski and Braaten (1994). In constructing the EISC for children, items were adapted to reflect emotional situations relevant to those aged 5 to 12 years. This instrument has excellent psychometric properties with an overall $\alpha = .90$ (Braaten & Rosen, 2000). Internal reliability for the present study was satisfactory with an overall Cronbach's alpha of $\alpha = .81$ and for the subscales as follows: positive subscale $\alpha = .89$; negative subscale $\alpha = .84$. Administration takes between 5 and 10 minutes, depending on the reading skills of the child.

The second instrument, the *Nominations for Peer Interactions Scale* is based on the scale used by Coie and Dodge (1988) in which students are asked to nominate up to three classmates "with whom you like to play or work with the most" (LM) and up to three classmates "with whom you like to play or work with the least" (LL) to derive a social preference score. In addition, the *Nominations for Peer Interactions Scale* asks each student to nominate the classmate who best fits each of the following descriptive statements: "A child who..." (a) is very shy, (b) is most likely to start fights or arguments for no good reason, (c) is most likely to be picked on or teased by others, and (d) is often left out. Peer nomination scores were obtained by summing responses from classroom nominations for each child. Each child had nominations in six categories: liked most (LM); liked least (LL); fights often with others in the class (fights); is shy or quiet (shy); is often picked on or teased (picked on) and is left out or excluded by others (left out). The frequencies of nominations for each child were tallied to give an overall score.

Procedure

Following ethical approval from the administering institution, an electronic advertisement for recruitment was circulated to School Psychologists through state and Catholic primary

schools in Queensland who were asked to respond if they had children with EBD enrolled in classrooms. In total, 43 schools responded to the email and these were contacted by the researchers. Of these 43 schools, eight were found to have specialist classrooms for children with EBD and these were subsequently selected to participate in the research. Of the eight, two were in upper socioeconomic status areas, two were in middle socioeconomic status areas, and four were in middle to lower socioeconomic status areas, as determined by an index defined at the postcode level from the Australian Bureau of Statistics (2006).

Information letters and consent forms were forwarded by the schools to the parents of children in Years 3 to 7 (ages 8 – 12 years) with EBD, asking them to allow their child/ren to participate in the study. There was a 92% positive response from parents ($n = 61$) and so the two instruments were delivered to the schools where the resident school psychologists administered them to the participants during regular class time. Written instructions were provided to the school psychologists to ensure standardization across administrations.

Results

Initially, two multivariate analyses of variance (MANOVA) were conducted. The first examined emotion regulation and the two variables of emotional intensity (i.e., positive and negative emotional intensity) according to EBD status (i.e., children with EBD and those with EBD plus a formally diagnosed developmental disorder) and sex (male, female). The second examined peer interactions (i.e., peers who: are most liked; are liked least; fight; are shy; are picked on and teased; and left out) according to EBD status and sex. Pillais' Trace was used to evaluate multivariate significance and univariate F tests were conducted where significant multivariate results were obtained given its robustness when sample sizes are unequal and the assumption of homogeneity of variance-covariance matrices is violated (Tabachnick & Fidell, 2007). Univariate F tests were conducted where significant multivariate results were obtained and were determined to be significant at .05, but in the case of peer interactions, a Bonferroni adjusted alpha level of .008 was used to control for Type 1 errors. Effect sizes and power

estimates are also reported. To determine significant relationships among the variables according to EBD status, two bivariate correlations were also conducted.

Emotion Regulation

A 2 x 2 (EBD Status x Sex) between-subjects MANOVA revealed no significant interaction effect and no main effect for EBD status. There was however, a multivariate main effect of Sex ($F [2, 45], p < .001$, partial $\eta^2 = .28$). The univariate F tests revealed a significant difference between males and females for negative emotional intensity ($F [1, 49], p < .001$, partial $\eta^2 = .22$ with females scoring higher ($M = 78.38, SD = 13.13$) than males ($M = 64.56, SD = 10.07$).

Peer Interactions

A 2 x 2 (EBD Status x Sex) between-subjects MANOVA for peer interactions revealed no significant interaction effects and no significant main effects for EBD status and Sex. Therefore, the univariate F tests for the six dependent variables were not interpreted.

Relationships between EBD Status, Emotion Regulation, and Peer Interactions

Correlations between emotional intensity and peer interactions were investigated according to EBD status (EBD only and EBD plus a formally diagnosed developmental disorder) using Pearson's correlation coefficient. Correlations are presented in Tables 2 and 3.

<Insert Tables 2 and 3 here>

As can be seen in Table 2 for the EBD only group, there were seven significant positive correlations between: positive and negative emotions ($r = .84, p < .01$); fights most and liked least ($r = .55; p < .01$); picked on/teased and liked least ($r = .40, p < .05$); left out and liked least ($r = .42, p < .05$); shy and picked on/teased ($r = .36; p < .05$); shy and left out ($r = .37; p < .05$); and picked on/teased and left out ($r = .96, p < .01$).

For the EBD plus a formally diagnosed developmental disorder group, there were three significant correlations (see Table 3): positive and negative emotions ($r = .54, p < .01$); fights most and liked least ($r = .47; p < .05$); and picked on/teased and left out ($r = .80, p < .01$).

Discussion

The findings from the present study revealed no significant differences in emotional intensity (both positive and negative) between children with EBD only and children with EBD plus a developmental disorder. It is usually the case that where a comorbid developmental disorder exists, the severity of the child's behaviour is amplified, often to such an extent that a sizable proportion of those who experience these conditions early in childhood suffer from antisocial tendencies in adolescence and early adulthood (Beauchaine, Hinshaw, & Pang, 2010). Jones, Dohrn, and Dunn (2004) argued that students with EBD differ from other students in the frequency, intensity and duration of their behaviours, and although the present research did not compare students with EBD against non-EBD students, it did compare those with EBD and those with EBD plus a developmental disorder. Contrary to Jones et al. (2004), there were no differences in emotion regulation behaviours between the two groups. Atkinson and Hornby (2002) contended that a distinction is needed between occasional disruptive behaviour, which is considered developmentally appropriate, and the continuum of EBD, which incorporates non-diagnosed and diagnosed difficulties. Given Pirrie et al's. (2011) contention regarding the deficiency in conceptual clarity in the area of EBD, the lack of difference between the two groups in the present study seems to further blur the distinction between EBD and developmental disorders as a clear diagnostic category. According to Fovet (2011), different groups of children who present with difficult behaviour can be distinguished by the severity of that behavior and not merely the presentation. In the present study, this appeared not to be the case in terms of emotion regulation.

The present findings revealed females with EBD only and EBD plus a developmental disorder had higher negative emotional intensity than their male counterparts in that they experienced for example, greater levels of frustration, anger, guilt and aggression to everyday situations. Traditionally, girls are thought of as more socially and emotionally aware, and as less likely to exhibit aggressive and externalizing behaviours and conduct problems (Frick &

Dickens, 2006; Kimonis & Frick, 2010). This is supported by the findings of Pastor, Reuben, and Duran (2012) who found that of approximately 5% of 4 to 17 year olds presenting with emotional and behavioural problems over a seven year period, 6.3% were boys compared to 3.8% of girls.

With reference to peer relationships and children with EBD, no significant differences were found between those with EBD and those with EBD plus a diagnosed developmental disorder. This suggests that the addition of a comorbid developmental disorder does not further adversely affect the day-to-day peer interactions of the child with EBD. Research has demonstrated the importance of peer relationships in successful development, and the benefits that positive friendships can have on academic, emotional and behavioural trajectories (see Eisenberg & Fabes, 1998; Eisenberg, Fabes, Nyman, Bernzweig, & Pinuelas, 1994; Saarni, 1997; Veronneau, Vitaro, Brendgen, Dishion, & Tremblay, 2010). Conversely, difficulties in gaining acceptance from peers can also maintain and develop children's behavioural problems (Deater-Deckard, 2001; Mercer & DeRosier, 2008).

It is possible that the presence of a comorbid developmental disorder moderates the negative peer interactions of those with EBD. For example, the EBD only group in the present study, had more significant positive correlations for their negative interactions with others ($n = 6$) than the EBD plus developmental disorder group ($n = 2$) and these correlations were much stronger. Clearly, the children with EBD only who were "least liked" amongst their peers, fought most, were often picked on or teased, and left out or excluded by others. In comparison, children with EBD and a developmental disorder who were "least liked" were those who fought most with their peers. Externalizing difficulties, such as aggression, have been found to play a role in peer acceptance and/or rejection (Fordham & Stevenson-Hinde, 1999).

As in most research, the current work has a number of limitations which must be acknowledged. First, the absence of a community comparison group (i.e., non-EBD regular

school students) limits the extent of any stringent comparisons in emotion regulation and peer interactions. Furthermore, it limits the generalisability of the findings to the general school population.

Second, it was not known whether any of the children were medicated at the time of instrument administration. There is a strong possibility that some were, given that they had received a medical diagnosis for a developmental disorder. The use of psychotropic medications is one of the most common treatments for young people with EBD and is known to reduce negative interactions with peers and promote positive relationships with those in authority (Du Paul, Weyandt, & Booster, 2010). Therefore, any medication may have had the effect of masking the true extent of the difficulties the participants experienced in emotion regulation and peer interactions.

The lack of clarity that exists around the construct of EBD, even given the large numbers of children who present with severe emotional and behavioural problems means that many children are excluded from receiving the appropriate educational and support services. Given the short- and long-term adverse outcomes associated with EBD, the early and accurate identification of children is critical. Research has already demonstrated the benefits of early identification and intervention (Conroy, Hendrickson, & Hester, 2004; Daniels, 2006; Kauffman, 2005). By acknowledging the construct of EBD, the development of more chronic and severe disorders may be prevented (Merrell & Walker, 2004; Poulou, 2005; Walker, Colvin, & Ramsey, 1995).

In conclusion, the absence of studies focusing on the emotion regulation and peer relationship difficulties experienced by those with EBD demonstrates that further research is clearly necessary. Although the present research did not establish that children with EBD experience such difficulties at a greater level than children without EBD (i.e., due to a lack of a community comparison group), it did highlight that there were strong positive relationships between EBD status and negative peer interactions. Therefore, there is a need for researchers

to develop evidence-based programs which allow young people with EBD to function more effectively in social settings such as the classroom.

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Table 1
Descriptive Statistics of the Sample Pertaining to Gender, Diagnosis and Grade Level

Grade Level	EBD		EBD + Diagnosis		Total
	Male	Female	Male	Female	
3	5	2	3	2	12
4	4	4	4	1	13
5	2	6	4	3	15
6	4	1	6	1	12
7	4	1	4	0	9
Total	19	14	21	7	61