

Running head: PARENT-FOCUSED INTERVENTIONS

**To be published in D. Pepler and W. Craig (Eds.). (2009, in press). *Rise Up for Respectful Relationships. PREVNet Series (Volume 2)*. Revised Nov 21, 2008.  
Please do not quote without the permission of the authors.**

Parent-Focused Interventions for the Prevention of Bullying:  
Accommodating Children with Difficulties Regulating Emotions  
Zopito Marini, Anthony Volk, and Andrew Dane  
Brock University

Address correspondence to: Dr. Zopito A. Marini, Department of Child and Youth Studies, Brock University, St. Catharines, ON. L2S 3A1; CANADA; E-mail: zmarini@brocku.ca

## **Parent-Focused Interventions for the Prevention of Bullying: Accommodating Children with Difficulties Regulating Emotions**

*Parents are an important, but underutilized resource in bullying prevention. The purpose of this chapter is to discuss the potential benefits of tailoring parent-focused interventions for the prevention of bullying to individual differences in children's temperament and brain function. To illustrate this issue, we discuss the case of accommodating parenting to children who struggle with regulating emotions.*

### ***Bullying and Its Consequences***

Bullying is a major concern for parents in light of its adverse effect on the family and school lives of the substantial number of children involved, and is defined as a relationship problem characterized by an imbalance of power whereby a more powerful individual repeatedly causes harm to a weaker individual (Craig & Pepler 2003). This harm is caused by the repeated, systematic, coercive and intentional use (and abuse) of power in peer relationships (Marini, Dane, Bosacki, & YLC-CURA, 2006a; Olweus, 2001; Smith, Pepler, & Rigby, 2004).

Bullying is increasingly recognized as a significant risk to the development of many children (Spivak & Prothrow-Stith, 2001). Bullying may influence the physical, mental, and/or social (Olweus, 1992; Smith, 1997) development of children and adolescents. The number of children who report bullying other children or being bullied themselves lies between 10-60% (Borg, 1999; Craig, 1998; Forero, McLellan, Rissel, & Bauman, 1999; Marini, McWhinnie, & Lacharite, 2004; Nansel et al., 2001; Olweus, 1989; Salmivalli, Lappalainen, & Lagerspetz, 1998). The universality of the problem is illustrated by the wide variety of countries and cultures in which bullying is found (for a partial list, see Borg, 1999). Of the approximately 2.2 billion children in the world (United Nations Population Fund, 1999), it is estimated that up to 1.3 billion children may be directly affected by bullying worldwide!

In childhood and adolescence, engagement in bullying is associated with a range of psychosocial problems including peer rejection, psychiatric difficulties such as conduct and anxiety disorders, and poor academic performance (Coie, Dodge, & Kupersmidt, 1990; Haynie, Nansel, Eitel, Crump, Saylor, Yu, et al., 2001; Loeber, Green, Lahey, & Kalb, 2000; Nansel et al., 2001; Olweus, 2001). Furthermore, several aspects of maladjustment in adulthood have been linked to childhood and adolescent aggression or bullying, including criminal convictions, unemployment, smoking and substance use, partner abuse, depression and anxiety, lower levels of education, high school drop out, and lower status occupation (Farrington, 1993; Moffitt, Caspi, Harrington, & Milne, 2002; Pepler, Jiang, Craig, & Connolly, 2008; Rigby, 2001). Students who are victimized often report an array of internalizing difficulties related to anxiety, depression and self-esteem, as well as a heightened risk of suicide (Craig, 1998; Grills & Ollendick, 2002; Rigby, 2001).

At particular risk are those individuals who both bully others and are victimized, known as dually involved children (Marini et al. 2006a). Research suggests that these children are not only at risk for the problems associated with bullying and victimization respectively, but that they are more likely to suffer those problems than children who only bully, or who are only victimized (Volk, Craig, Boyce, & King, 2006). This may be especially significant given recent results suggesting that as many as 33% of the students who reported high levels of experience with either bullying or victimization were dually involved in both (Marini et al., 2006a).

### ***Bullying Subtypes and Individual Differences: Current Research***

Although several programs have been created to address the issue of bullying in schools, research has shown that these interventions have had mixed results (Smith, Pepler, & Rigby, 2004; Smith, Stewart, & Cousins, 2004). There are a number of reasons that may account for this. One

possibility is that bullying intervention programs tend to employ a one-size-fits-all model, whereby all children who bully are assumed to be more or less the same. However, a growing body of research suggests that children who bully may follow different pathways en route to bullying their peers. For example, children with different temperaments may engage in bullying behaviours for different reasons (Marini & Dane, 2008). Investigators are starting to draw a distinction between children who are temperamentally less able to regulate their emotions (emotionally dysregulated temperament) and youngsters who engage in inappropriate behaviour such as bullying through callousness and a lack of empathy (callous-unempathic temperament). (Frick & Morris, 2004; Nigg, 2006). Because of their implications for understanding bullying and designing maximally effective interventions for its prevention, the first aim of this chapter is to describe the characteristics of children with the cluster of attributes comprising an emotionally-dysregulated temperament. The second aim of this chapter is to discuss the how research on children with an emotionally-dysregulated temperament can be applied to parents involved in bullying interventions, with particular emphasis on how such interventions may be tailored to help parents meet the special needs of these children.

### ***Emotionally Dysregulated Temperament***

Temperament has been defined as individual differences in emotional, motor, and attentional reactivity and self-regulation that are relatively consistent across childhood (Rothbart & Bates, 2006; for similar definitions see Kagan, 1998; Nigg, 2006; Putnam, Ellis, & Rothbart, 2002). Although a precise definition of temperament has been difficult to agree upon, there is a growing consensus that temperament characteristics are biologically based, most readily observed in social interactions, first surface in early infancy, constitute the core of personality, are somewhat stable across time and situations, and are an open system affected by both internal developmental processes and external social contexts (Goldsmith et al., 1987; Nigg, 2006; Rothbart & Bates, 2006).

Although researchers have used a wide variety of terms to label temperament characteristics, a general consensus has been emerging recently about three or four basic dimensions (Nigg, 2006; Putnam et al., 2002; Rothbart, Ahadi, & Evans, 2000). The first is related to surgency, extraversion, and positive affect, and individuals high in this dimension are particularly likely to approach and explore objects or situations that are perceived as novel or potentially rewarding. The second major characteristic involves negative affectivity, including fear, irritability, anger, and withdrawal. Although both fearful distress and irritable distress are considered to be components of negative emotionality, researchers are beginning to make a distinction between the two in infancy, toddlerhood, childhood, and adolescence (Nigg, 2006; Putnam et al., 2002). Effortful control is a third characteristic that features in most measures of temperament, which includes the regulation of attention; the inhibition of actions that provide immediate gratification but would lead to long-term negative consequences; as well as the activation of behaviours that may require effort and are not immediately rewarding (Putnam et al., 2002). A fourth dimension, affiliativeness, includes warmth, agreeableness, friendliness and sociability, but this dimension does not appear in the literature as consistently as the other three (Putnam et al., 2002).

Recently, researchers have suggested that it may be beneficial to consider combinations rather than individual temperament characteristics to better understand how temperament plays a role in child development (Nigg, 2006). One such constellation, referred to as an emotionally dysregulated temperament, is characterized primarily by: (a) high negative emotionality, including high fearfulness, anxiety, anger, frustration, and irritability, (b) high approach, surgency, sensation seeking or extraversion; and (c) low effortful control or self-control.

### ***Neural Models of Temperament***

Various authors have posited neural models of the major dimensions of temperament (see Rothbart & Posner, 2006). Individual differences in systems underlying fear and affiliativeness may contribute to an emotionally dysregulated temperament. In neural models of fear, the amygdala is regarded as the central structure, an important function of which is to evaluate sensory information for its emotional meaning (LeDoux, 1996, 2003). In the case of fear, the key consideration is whether a given object or situation is perceived as threatening, dangerous, or having the potential to result in punishment. When an object or situation is evaluated as being threatening or dangerous, the amygdala stimulates a variety of fear responses, such as the fight or flight adrenaline response. Thus, individuals with a highly sensitive fight or flight system may be vulnerable to evaluating stressful situations as threatening, and the consequent fear response from the brain may provoke an unwarranted, or excessive, fight or flight response that results in defensive (reactive) aggression when escape is not possible. In other words, when some children perceive that they are backed into a corner, they appear to be neurally wired to engage in stronger fight or flight responses than average children.

Emotionally dysregulated children may also be susceptible to angry, frustrated or irritable aggression due to the hypersensitivity of brain circuits called the Behaviour Activation System (BAS) or the Behaviour Facilitation System (Depue & Collins, 1999), in which dopamine is the major neurotransmitter. These dopaminergic circuits originate in the ventral tegmental area of the midbrain and project to the amygdala, hippocampus, nucleus accumbens, and the prefrontal cortex. Activity in these dopamine circuits is thought to give rise to excitement and eagerness that would motivate a person to approach and explore a potentially rewarding or novel object or situation (Panskepp, 1986). At first blush, it seems somewhat paradoxical to suggest a connection between over-activity in the Behaviour Activation System and reactive aggression, since children with a hypersensitive BAS would be more inclined to experience positive affect in the face of rewarding stimuli. However, it has been suggested that individuals who are particularly excited by rewarding or novel stimuli are also by extension predisposed to angry, frustrated or irritable aggression when access to a potentially rewarding object or situation is blocked (Depue & Iacono, 1989; Rothbart & Posner, 2006).

The lack of emotional control characteristic of children who are temperamentally emotionally dysregulated also reflects difficulties exerting cognitive control over the fear and anger that these children are susceptible to under stressful or frustrating circumstances. From the standpoint of temperament, this deficit reflects a low level of effortful control. Neural models of temperament suggest that the ability to exert effortful control depends upon the prefrontal cortex suppressing emotional arousal generated in the limbic system (Panskepp, 1998; Posner & Rothbart, 2000), including the fear responses of the fight or flight system or feelings of frustration connected to neural activity in the dopaminergic pathways of the Behavior Activation System. Individual differences in children's ability to regulate their emotions may be due in part to variations in the structure and function of the prefrontal cortex, which may be due to genetic or biological factors, age-related developmental changes, or unique social-emotional experiences (Luna et al. 2001; Nelson, 2001).

### ***Emotional Dysregulation and Bullying Subtypes***

One obstacle to understanding and preventing bullying and victimization is that bullying is a more complex concept than was originally believed (Little, Brauner, Jones, Nock, & Hawley, 2003; Toblin, Schwartz, Hoppmeier-Gorman, & Abou-ezzedine, 2005). For instance, there appear to be several subtypes or dimensions of bullying characterized by differences in forms, functions and types of involvement. Since we have outlined the Multidimensional Bullying Identification Model elsewhere (see Marini & Dane, 2008; Marini, Koruna & Dane, 2006b), we only briefly present three

parts of the model to reinforce the issue of complexity and diversity in bullying behaviour. Specifically, we will address direct or indirect forms, proactive or reactive functions, and different types of involvement, including bullies, victims and bully-victims.

The first distinction (see Vaillancourt, Brendgen, Boivin, & Tremblay, 2003) is whether the bullying behaviour is direct, (e.g., hitting and name calling), or indirect (e.g., social exclusion or rumour spreading). Research has shown that while negative consequences are equally associated with both forms, the specific consequences can differ for victims of the two types of bullying (see Volk et al., 2006). The second consideration is whether the function of bullying is reactive, entailing provoked, emotional, defensive, impulsive aggression providing instantaneous emotional release, or proactive, involving planned, goal-directed, reward-driven and predatory, aggression (Camodeca, Goossens, Meerum-Terwogt, & Schuengel, 2002; Little et al., 2003; Dodge & Coie, 1987; Poulin & Boivin, 2000; Pulkkinen, 1996; Crick & Dodge, 1996; Pellegrini, Bartini, & Brooks, 1999). The third distinction pertains to nature of the person's involvement in bullying, for example, whether it is pure bullying or dual involvement in both bullying and victimization.

Emotionally dysregulated children appear to be particularly prone to bullying of a reactive nature, and to being dually involved in bullying and victimization. Research shows that children who bully reactively are characterized by impulsivity, emotional reactivity, a tendency to make hostile attributions, and a proneness to frustration and hostility, all of which may predispose them to emotional or explosive aggressive reactions to perceived provocation (e.g., Dodge et al., 1997; Vitaro et al., 2002; Raine et al., 2006; Little et al., 2003). Furthermore, children involved in both bullying and being victimized have been found to possess a number of temperamental characteristics that fall into the domain of emotional dysregulation, including irritability, low frustration tolerance, and negative emotionality (Hess & Atkins, 1998; Marini et al., 2006a; Pellegrini & Bartini, 2000). Schwartz and his colleagues (see Schwartz et al., 2001) have suggested that the common risk factor predisposing bully-victims to both bullying and victimization is difficulty with the regulation of emotions. Since they are prone to emotional reactivity, they are likely to over-react to provocation such as peer teasing with an explosive outburst. Their predisposition to frustration and anger may render them more susceptible to being aggressive, whereas their emotional volatility may alienate peers and set them up as targets of bullying (Marini et al., 2006b; Salmivalli, Kaukiainen, Voeten, & Sinesammal, 2004).

### ***Emotionally Dysregulated Temperament, Parenting and Bullying***

The challenge for parents is to match their strategies for improving the behaviour of their child to the child's temperament. Recently, several studies have shown that children of different temperaments respond differentially to various behavioural control strategies used by parents, and are influenced dissimilarly by the parent-child relationship (Collins, Maccoby, Steinberg, Hetherington, & Bornstein, 2000; Cumming, Davies, & Campbell, 2000). This research implies that parents need to be mindful of how emotionally dysregulated children may respond differently to intervention strategies aimed at reducing bullying. Additionally, parents themselves may react differently to emotionally dysregulated children.

One of the major patterns evident in the research on parent-temperament interactions is that children with emotionally dysregulated temperaments appear to react more adversely than other children to harsh forms of parental control and to negative parent-child relationships. With respect to parental control, harsh and inconsistent discipline was associated with aggression or conduct problems for children high in impulsivity (i.e., low effortful control) or fearfulness (Colder et al., 1997; Lengua et al., 2000; Leve et al., 2005), although the interaction between harsh discipline and impulsivity in the study by Leve and colleagues was significant only for girls. Problems in the parent-child relationship also seem to have a larger impact on emotionally dysregulated children. In particular, children and adolescents who are uninhibited, low in effortful control, prone to anger, high in

negative emotionality, or have a difficult temperament (defined as low inhibitory control, high frustration, high activity level and low soothability) are more apt to experience behavioural problems if the parent-child relationship is characterized by avoidant, dismissive, hostile, unsupportive, insensitive, and/or intrusive parenting (Belsky et al., 1998; Burgess et al., 2003; Carlo, Roesch, & Melby, 1998; Morris et al., 2002; van Aken et al., 2007).

In several studies, the likelihood of a temperament characteristic predisposing a child to behavioural problems was altered by the kind of parenting experienced by the child. For example, three studies showed that children with aspects of an emotionally dysregulated temperament, including low effortful control, high emotion dysregulation (i.e., approach, anger proneness) and negative emotionality, were more likely to evidence aggression or externalizing behaviour when they experienced negative features of parental control or of the parent-child relationship, such as maternal dominance and negativity, and high parental physical punishment (Paterson & Sanson, 1999; Rubin, Hastings, Chen, Stewart, & McNichol, 1998; Rubin et al., 2003).

In addition, research suggests that a child's temperament can influence parenting. In accordance with the concept of evocative gene-environment correlations, whereby children with maladaptive temperaments are more likely than other children to evoke negative parenting (e.g., Collins et al., 2000; Rutter, 1997), several studies indicated that children with emotionally dysregulated temperament features, such as high irritability and low self-regulation, appeared more likely to evoke negative forms of parental control including inconsistent discipline and punitive reactions, which in turn were uniquely associated with child behaviour problems (Eisenberg et al., 1999; Lengua & Kovacs, 2005; Watson, Fischer, Andreas, & Smith, 2004).

However, several studies demonstrated that the reverse was also possible, in other words, that parenting could exacerbate or reduce temperament qualities such as emotion dysregulation, which in turn may increase or decrease the risk of aggressive behaviour. For instance, negative aspects of parental control and the parent-child relationship, such as inconsistent discipline, parental distress to child behaviour, negative family functioning, authoritarian parenting, psychological control and parental maltreatment, were found to increase maladaptive temperament features such as fearfulness, irritability, emotional lability/negativity, poor self-regulation, uninhibited behaviour and low self-control (Eisenberg et al., 1999; Finkenauer et al., 2005; Lengua & Kovacs, 2005; Shields & Cicchetti, 1998; Watson et al., 2004; Zhou et al., 2004). These temperament characteristics were in turn uniquely associated with behavioural problems. On the other side of the coin, positive dimensions of parenting such as high acceptance-involvement and authoritative parenting were positively associated with self-control and effortful control, which in turn were linked with a reduced likelihood of negative social functioning (aggression and poor peer relations) and aggression (Finkenauer et al., 2005; Zhou et al., 2004). Notably, these studies provide evidence that parenting may shape facets of an emotionally dysregulated temperament, such as effortful control, proneness to irritability/frustration or fearfulness.

These findings are consistent with the contention of researchers that temperament is an open system subject to change (e.g., Rothbart & Bates, 2006), rather than being fixed or predetermined. This also coincides with our knowledge of the plasticity of the developing child's brain, such that temperament is not just an obstacle for parents to overcome, but also an aspect of the child that parents may help to shape. Despite there being much theoretical agreement that temperament is malleable, the prospect of parenting exacerbating or reinforcing temperament characteristics is seldom studied (Lengua & Kovacs, 2005), and hence these results are quite notable.

### ***Implications for Enhancing the Role of Parents in Bullying Interventions***

In summary, parents of children with emotionally dysregulated temperaments are faced with several inter-locking challenges. Given that it may be particularly difficult and frustrating for parents to manage the behaviour of children who struggle with emotion regulation, there is an

increased risk that parents will respond to these children with harsher and more punitive forms of discipline, thereby straining the parent-child relationship. Unfortunately, these responses could set a cycle in motion that feeds on itself, as parental harshness triggers the child's emotionally dysregulated temperament causing them to behave even worse, causing even harsher parental behavior, which triggers the worst aspect of a child's temperament. This challenge needs to be explicitly articulated in parent-focused interventions for the prevention of bullying, and existing programs may need to be tailored to address the special needs of these children, so that parents of emotionally dysregulated children can either avoid or break out of this cycle.

***Parent-Focused Interventions for the Prevention of Bullying:*** The major parent-focused method that has been used to reduce and prevent aggression or bullying is often called parent management training. The primary purpose of parent management training is to improve parents' effectiveness by teaching them to establish clear rules, find opportunities for positive parent-child interaction, consistently reward appropriate behaviour, effectively discipline inappropriate behaviour using procedures such as time out or privilege removal rather than harsh punishment, and to ignore minor misbehaviour to avoid unnecessary disciplinary battles and reinforcing attention-seeking behaviour (planned ignoring) (Kazdin, 2005). Parents are also taught to give effective instructions and establish clear age-appropriate rules. Role play, discussion and homework exercises are used to teach these skills. Parent-management training programs have been integrated into comprehensive school-based violence prevention programs (Conduct Problems Prevention Research Group, 1999) and have also been used with children referred to clinical settings (Kazdin, 2005). Meta-analyses of parent-management-training programs have reported large effect sizes for the reduction of aggression in children up to the age of 10 (Serketich and Dumas, 1996), whereas effect sizes for conduct problems and delinquency in adolescent populations were in the small to moderate range (Woolfenden, Williams, & Peat, 2002; Farrington & Welsh, 2003).

***Tailoring Parent-Focused Interventions for the Prevention of Bullying:*** As stated above, one of the major strategies for improving children's conduct and reducing behavioural problems is for parents to create opportunities for positive interaction and to praise and reward appropriate behaviour whenever possible. By "catching a child doing something good," parents can positively reinforce appropriate behaviour, thereby increasing the probability of its recurrence. This approach may reduce parents' reliance on harsh discipline strategies, allowing parents to avoid the negative cycles discussed earlier. Thus parents of emotionally dysregulated children should try to maximize their use of positive reinforcement in place of harsh punishment. However, to do this effectively, parents may benefit from being forewarned about the challenges they may face, as research suggests that emotionally dysregulated youth are more likely to evoke negative or punitive reactions from parents (Carlo et al., 1998).

Parents of dysregulated children can be taught to anticipate that it will be particularly challenging for them to maintain a light-hearted, positive relationship with their child and that it will be necessary to overcome this obstacle. Consequently, it may be helpful to modify traditional parent management training approaches for the benefit of these parents, including additional units that provide strategies to assist them in maintaining self-control when engaged in stressful interactions with their dysregulated child. Additional material might include teaching relaxation techniques (e.g., deep breathing, muscle relaxation), taking a break from the situation to let their emotions cool down, and employing cognitive restructuring techniques that reframe the impulsive, explosive behaviour of their emotionally dysregulated child as being partly rooted in a biological vulnerability, as opposed to simply being deliberate hostile and oppositional behaviour on the part of the child. These parental self-control techniques would mirror those used to enhance the self-control of aggressive children in child-focused programs (Lochman & Wells, 2004). In giving parents tools that enable

them to overcome negative emotional reactions to difficult child behaviour, they should be better able to have positive, rewarding parent-child interactions wherein positive, appropriate behaviour may be reinforced and encouraged. Another crucial benefit of the employment of parental self-control strategies in parent-focused bullying prevention interventions may be that at the same time as they are building a more positive parent-child relationship, parents are also modeling appropriate self-controlling behaviors for their child. Parents' modeling of good self-control over their emotions, using the techniques discussed above may enhance their child's self-regulation abilities, given research showing a link between parental expression of distress to child behaviour and decreased self-regulation abilities in children over time (Eisenberg et al., 1999). Interventions making use of parental self-control strategies may also facilitate parents' ability to shift from harsh discipline strategies to the use of the more appropriate strategies that are milder and less punitive—such as time outs or privilege removal (e.g., reducing time for watching TV or playing video games), that are stressed in parent management training programs. Moreover, moderate behaviour management strategies, such as privilege removal or providing consequences for inappropriate behaviour that emphasize setting right what was done wrong are less likely to overwhelm children who are prone to emotional reactivity. As noted earlier, harsh and inconsistent discipline was associated with aggression or conduct problems for children high in impulsivity (i.e., low effortful control) or fearfulness (Colder et al., 1997; Lengua et al., 2000; Leve et al., 2005). Because emotionally dysregulated children are temperamentally more fearful than their peers, milder forms of behaviour management should be sufficient to elicit an optimal level of anxiety in the child, which in turn should prompt attention to the moral message delivered by the parents, and provide ample motivation for behavioural change (Kochanska, 1995). Consequently, higher intensity, more threatening forms of discipline would be unnecessary and likely counter productive. Putting such a practice into effect may be challenging, however, since research shows that irritable and unregulated children tend to evoke more punitive and inconsistent forms of discipline from parents (Eisenberg et al., 1999; Lengua & Kovacs, 2005), perhaps because their behaviour can be unpredictable, disconcerting and frustrating. Thus, using techniques that enable parents to maintain self-control in the face of difficult child behaviour, as discussed above, may be a critical step in enabling parents to break the cycle that maintains and worsens emotional reactivity in these temperamentally vulnerable children.

An additional benefit of parents modeling good self-control of their emotions is that they may be less likely to be drawn into the self-escalating cycles of negative or excessively punitive reactions, followed by negative, aggressive responses from their emotionally dysregulated child. Indeed, research indicates that children with emotionally dysregulated temperament features are more likely to exhibit behavioural problems when parents themselves use heavy-handed tactics fraught with negative emotions to control their children's behaviour (Paterson & Sanson, 1999; Rubin et al., 1998; 2003). Additional research by Bates et al. (1998) suggests that parents' use of firm, but calm, admonitions may reduce problematic behaviour effectively and prevent the negative exchanges that unintentionally reinforce the notion that aggressive or bullying behaviour can pay dividends.

Finally, in addition to the behaviour management principles that comprise the core elements of behaviour management training, parent-focused interventions for the prevention of bullying may be expanded to illustrate authoritative approaches to parenting. Among other things, authoritative parenting includes parental acceptance-involvement, and psychological autonomy granting, which have been associated with increased levels of self-control over time ((Finkenauer et al., 2005; Zhou et al., 2004). A key element of authoritative parenting is high acceptance of and involvement with the child, which includes good communication and the use of inductive discipline, which uses reasoning and explanation to illustrate how others are affected by the child's inappropriate behaviour (e.g., Gray & Steinberg, 1999). This may increase social empathy in the child that in turn

improves their ability to interact with others. Parents who take such an approach to dealing with behavioural infractions in the home may therefore give emotionally dysregulated children opportunities to reflect on how their emotional and behavioural outbursts affect other members of the family. In other words, parents may promote greater consideration of the negative consequences of emotionally volatile and reactively aggressive behaviour in social situations, increasing the child's capacity to successfully interact with peers.

Another quality of authoritative parenting is psychological autonomy granting, meaning that children are granted an appropriate level of autonomy to make their own decisions and to solve their own problems, which in turn provides them with opportunities to learn how to regulate their own behaviour rather than relying on the external regulation of adults (Gray & Steinberg, 1999). Parents may facilitate such a process with emotionally dysregulated children, for example, by mediating conflict resolution between two members of a family rather than dictating a solution, thereby helping to build self-regulation skills. Or parents may help by engaging in games or activities that require children to practice self-control (e.g., Simon Says in younger children or charades for older children). To help emotionally dysregulated children to make good decisions independently, parents may wish to participate with their children in formal problem solving-skills training programs that have been shown to increase children's abilities to regulate their behaviour by giving forethought to its consequences (see Augimeri, Farrington, Koegl, & Day, 2007).

### ***Conclusion***

Children's involvement in bullying remains a serious problem for parents, but recent research, reviewed in the foregoing chapter, has suggested that its prevention and management may be better understood through careful consideration of the different pathways toward bullying that may be taken by children with emotionally dysregulated temperaments. Looking at the bigger picture, we hope that this chapter illustrates how individual differences in brain function and structure may affect children's psychosocial and behavioural adjustment in the family setting, how practitioners may capitalize on this knowledge to tailor parent-focused intervention programs and how parents may modify their personal interactions with these children to best meet the particular needs of each child. Specifically, we suggest that the following key messages be considered:

- Because emotionally dysregulated children react more adversely than other children to harsh forms of discipline (e.g., spanking, yelling, threatening), it is advisable for parents to use milder forms of discipline such as time outs and privilege removal with these children, along with praise and positive reinforcement of good behaviours. This can avoid self-perpetuating cycles of negativity between parents and their child.
- Emotionally dysregulated children are more apt than their peers to experience behavioural problems if they have a negative relationship with their parents, and it is therefore critical that parents establish a positive relationship with these children, despite the challenges inherent in interacting with them. Modifying parent-focused interventions to include self-control strategies for parents may facilitate the building of a good relationship between parents and emotionally dysregulated children.
- Parent-focused interventions emphasizing the concepts of authoritative parenting, including using moderate behavioural control, being accepting, warm and involved, and granting developmentally appropriate autonomy, may help parents to enhance the self-control and social skills of emotionally dysregulated children.

In summary, children with an emotionally dysregulated temperament may pose substantial challenges to parents, but by responding with acceptance and with positive parenting strategies that are tailored to the child's temperament, parents can foster their children's developing capacity to enjoy healthy peer relationships.

## References

- Augimeri, L. K., Farrington, D. P., Koegl, C. J., & Day, D. M. (2007). The SNAP™ Under 12 Outreach Project: Effects of a community based program for children with conduct problems. *Journal of Child and Family Studies*, 16(6), 799-807.
- Bates, J. E., Pettit, G. S., Dodge, K. A., & Ridge, B. (1998). Interaction of temperamental resistance to control and restrictive parenting in the development of externalizing behaviour. *Developmental Psychology*, 34, 982-995.
- Belsky, J., Hsieh, K., & Crnic, K. (1998). Mothering, fathering, and infant negativity as antecedents of boys' externalizing problems and inhibition at age 3 years: Differential susceptibility to rearing experience. *Development and Psychopathology*, 10, 301-319.
- Baumrind, D. (1991). The influence of parenting style on adolescent competence and substance abuse. *Journal of Early Adolescence*, 11, 56-95.
- Bednar, D.E., & Fisher, T.D. (2003). Peer reference in adolescent decision making as a function of perceived parenting style. *Adolescence*, 38, 607-621.
- Borg, M. (1999). The exten and nature of bullying among primary and secondary school children. *Educational Resources*, 41, 137-153.
- Burgess, K. B., Marshall, P. J., Rubin, K. H., & Fox, N. A. (2003). Infant attachment and temperament as predictors of subsequent externalizing problems and cardiac physiology. *Journal of Child Psychology and Psychiatry*, 44, 819-831.
- Camodeca, M., Goossens, F. A., Terwogt, M., & Schuengel, C. (2002). Bullying and victimization among school-age children: Stability and links to proactive and reactive aggression. *Social Development*, 11, 332-345.
- Canli, T., Zhao, Z., Desmond, J. E., Kang, E., Gross, J., & Gabrieli, J. E. (2001). An fMRI study of personality influences on brain reactivity to emotional stimuli. *Behavioral Neuroscience*, 115, 33-42.
- Carlo, G., Roesch, S. C., & Melby, J. (1998). The multiplicative relations of parenting and temperament to prosocial and antisocial behaviors in adolescence. *Journal of Early Adolescence*. 18, 266-290.
- Coie, J. D., Dodge, K. A., & Kupersmidt, J. B. (1990). Peer group behavior and social status. In S. R. Asher & J. D. Coie (Eds.), *Peer rejection in childhood: Cambridge studies in social and emotional development* (pp. 17-59). New York: Cambridge University Press.
- Colder, C. R., Lochman, J. E., & Wells, K. C. (1997). The moderating effects of children's fear and activity level on relations between parenting practices and childhood symptomatology. *Journal of Abnormal Child Psychology*, 25, 251-263.
- Collins, W. A., Maccoby, E. E., Steinberg, L., Hetherington, E. M., & Bornstein, M. H. (2000). Contemporary research on parenting: The case for nature and nurture. *American Psychologist*, 55, 218-232.
- Craig, W. (1998). The relationship among bullying, victimization, depression, anxiety and aggression in elementary school children. *Personality and Individual Differences*, 24, 123-130.
- Craig, W. M., & Pepler, D. J. (2003). Identifying and targeting risk for involvement in bullying and victimization. *The Canadian Journal of Psychiatry*, 48, 557-582.
- Crick, N. R., & Dodge, K. A. (1996). Social information-processing mechanisms in reactive and proactive aggression. *Child Development*, 67, 993-1002.
- Cummings, M. E., Davies, P. T., & Campbell, S. B. (2000). *Developmental psychopathology and family process: Theory, research, and clinical applications*. NY: Guilford.

- Depue, R. A., & Collins, P. F. (1999). Neurobiology of the structure of personality: Dopamine, facilitation of incentive motivation, and extraversion. *Behavioral and Brain Sciences*, 22, 491-569.
- Depue, R. A., & Iacono, W. G. (1989). Neurobehavioral aspects of affective disorders. *Annual Review of Psychology*, 40, 457-492.
- Dodge, K. A., & Coie, J. D. (1987). Social-information-processing factors in reactive and proactive aggression in children's peer groups. *Journal of Personality and Social Psychology*, 53, 1146-1158.
- Dodge, K. A., & Pettit, G. S. (2003). A biopsychosocial model of the development of chronic conduct problems in adolescence. *Developmental Psychology*, 39, 349-371.
- Eisenberg, N., Fabes, R. A., Shepard, S. A., Guthrie, I. K., Murphy, B. C., & Reiser, M. (1999). Parental reactions to children's negative emotions: Longitudinal relations to quality of children's social functioning. *Child Development*, 70, 513-534.
- Farrington, D. P. (1993). Understanding and preventing bullying. In M. Tonry (Ed.), *Crime and justice* (Vol. 17, pp. 381-458). Chicago: University of Chicago.
- Finkenauer, C., Engels, R., & Baumeister, R. (2005). Parenting behaviour and adolescent behavioural and emotional problems: The role of self-control. *International Journal of Behavioral Development*, 29, 58-69.
- Forero, R., McLellan, L., Rissel, C., & Bauman, A. (1999). Bullying behaviour and psychosocial health among school students in New South Wales, Australia: cross sectional survey. *British Medical Journal*, 319, 344-348.
- Frick, P. J., & Morris, A. S. (2004). Temperament and developmental pathways to conduct problems. *Journal of Clinical Child and Adolescent Psychology*, 33, 54-68.
- Gray, M. R., & Steinberg, L. (1999). Unpacking authoritative parenting: Reassessing a multidimensional construct. *Journal of Marriage & the Family*, 61, 574-587.
- Grills, A. E., & Ollendick, T. H. (2002). Peer victimization, global self-worth, and anxiety in middle school children. *Journal of Clinical Child and Adolescent Psychology*, 31, 59-68.
- Haynie, D. L., Nansel, T., Eitel, P., Crump, A. D., Saylor, K., Yu, K., & Simons-Morton, B. (2001). Bullies, victims, and bully/victims: Distinct groups of at-risk youth. *Journal of Early Adolescence*, 21, 29-49.
- Kagan, J. (1998). Biology and the child. In W. Damon (Ed.), *Handbook of child psychology: (5<sup>th</sup> ed., Vol. 3, pp. 177-235)*. New York: Wiley.
- Kochanska, G. (1995). Children's temperament, mothers' discipline, and security of attachment: Multiple pathways to emerging internalization. *Child Development*, 66, 597-615.
- LeDoux, J.E. (1996). *The emotional brain*. NY: Simon & Schuster.
- Lengua, L. J., & Kovacs, E. A. (2005). Bidirectional associations between temperament and parenting and the prediction of adjustment problems in middle childhood. *Journal of Applied Developmental Psychology*, 26, 21-38.
- Lengua, L. J., Wolchik, S. A., Sandler, I. N., & West, S. G. (2000). The additive and interactive effects of temperament and parenting in predicting adjustment problems of children of divorce. *Journal of Clinical Child Psychology*, 29, 232-244.
- Leve, L. D., Kim, H. K., & Pears, K. C. (2005). Childhood temperament and family environment as predictors of internalizing and externalizing trajectories from ages 5 to 17. *Journal of Abnormal Child Psychology*, 33, 505-520.
- Little, T. D., Brauner, J., Jones, S. M., Nock, M. K., & Hawley, P. H. (2003). Rethinking aggression: A typological examination of the functions of aggression. *Merrill-Palmer Quarterly. Special Issue: Aggression and Adaptive Functioning: The bright side to bad behavior*, 49(3), 343-369.

- Loeber, R., Green, S. M., Lahey, B. B., & Kalb, L. (2000). Physical fighting in childhood as a risk factor for later mental health problems. *Journal of the American Academy of Child & Adolescent Psychiatry*, *39*, 421-428.
- Luna, B., Thulborn, K.R., Monoz, D.P., Merriam, E.P., Garver, K.E., Minshew, N.J., et al. (2001). Maturation of widely distributed brain function subserves cognitive development. *NeuroImage*, *13*, 786-793.
- Marini, Z. A., & Dane, A. V. (2008). Matching interventions to bullying subtypes: Ensuring programs fit the multifaceted needs of children involved in bullying. In D. Pepler & W. Craig (Eds.). *An International Perspective on Understanding and Addressing Bullying (PREVNet Series Volume 1, pp. 97-126)*. Bloomington, IN: AuthorHouse.
- Marini, Z.A, Dane, A., Bosacki, S., & YLC-CURA. (2006a). Direct and indirect bully-victims: Differential psychosocial risk factors associated with adolescents involved in bullying and victimization. *Aggressive Behaviour*, *32*, 551-569.
- Marini, Z.A., Koruna, B., & Dane, A. (2006b). Individualized interventions for ESL students involved in bullying and victimization. *Contact (Spring Issue)*, 1-15.
- Marini, Z.A., McWhinnie, M., & Lacharite, M. (2004). Preventing school bullying: Identification and intervention involving bystanders. *Teaching and Learning*, *1*, 17-21.
- Moffitt, T. E., Caspi, A., Harrington, H., & Milne, B. J. (2002). Males on the life-course-persistent and adolescence-limited antisocial pathways: Follow-up at age 26 years. *Development and Psychopathology*, *14*, 179-207.
- Morris, A. S., Silk, J. S., Steinberg, L., Sessa, F. M., Avenevoli, S., & Essex, M. J. (2002). Temperamental vulnerability and negative parenting as interacting predictors of child adjustment. *Journal of Marriage and Family*, *64*, 461-471.
- Nansel, T. R. Overpeck, M., Pilla, R. S., Ruan, W. J., Simons-Morton, B., & Scheidt, P. (2001). Bullying behaviors among US youth: Prevalence and association with psychosocial adjustment. *JAMA: Journal of the American Medical Association*, *285*, 2094-2100.
- Nelson, C.A. (2001). Neural plasticity and human development: The role of experience in sculpting memory systems. *Developmental Science*, *3*, 115-130.
- Nigg, J. T. (2006). Temperament and developmental psychopathology. *Journal of Child Psychology and Psychiatry*, *47*, 395-422.
- Olweus, D. (1989) Bully/Victim Questionnaire for Students. Department of Psychology, University of Bergen, Bergen.
- Olweus, D. (1992). Bullying among school-children: Intervention and prevention. In: R. Peters, R. McMahon, & V. Quinsey (Eds.). *Aggression and Violence Throughout the Lifespan* (pp. 100-125). London: Sage.
- Olweus, D. (2001). *Olweus' core program against bullying and antisocial behavior: A teacher handbook*. Bergen, Norway: Author.
- Panskepp, J. (1986). The neurochemistry of behavior. *Annual Review of Psychology* *37*: 77-107.
- Panskepp, J. (1998). *Affective neuroscience: The foundations of human and animal emotions*. NY: Oxford University Press.
- Paterson, G., & Sanson, A. (1999). The association of behavioural adjustment to temperament, parenting and family characteristics among 5-year-old children. *Social Development*, *8*, 293-309.
- Pellegrini, A. D., Bartini, M., & Brooks, F. (1999). School bullies, victims, and aggressive victims: Factors relating to group affiliation and victimization in early adolescence. *Journal of Educational Psychology*, *91*, 216-224.
- Pepler, D., Jiang, D., Craig, W., & Connolly, J. (2008). Developing trajectories of bullying and associated factors. *Child Development*, *79*, 325-338.

- Posner, M. I. & Rothbart, M. K. (2000). Developing mechanisms of self-regulation. *Development and Psychopathology*, 12, 427-441.
- Poulin, F., & Boivin, M. (2000). Reactive and proactive aggression: Evidence of a two-factor model. *Psychological Assessment*, 12 (2), 115-122.
- Pulkkinen, L. (1996). Proactive and reactive aggression in early adolescence as precursors to anti- and prosocial behavior in young adults. *Aggressive Behavior*, 22, 241-257.
- Putnam, S. P., Ellis, L. K., & Rothbart, M. K. (2002). The structure of temperament from infancy through adolescence. In A. Elias & A. Angleitner (Eds.), *Advances in research on temperament* (pp. 165-182). Lengerich, Germany: Pabst Science.
- Rigby, K. (2001). Health consequences of bullying and its prevention in schools. In J. Juvonen & S. Graham (Eds.), *Peer harassment in school: The plight of the vulnerable and victimized* (pp. 310-331). New York: Guilford.
- Rothbart, M. K., Ahadi, S. A., & Evans, D. E. (2000). Temperament and personality: Origins and outcomes. *Journal of personality and social psychology*, 78, 122-135.
- Rothbart, M. K., & Bates, J. E. (2006). Temperament. In N. Eisenberg (Ed.), *Handbook of child psychology: Vol. 3. Social, emotional, and personality development* (6th ed., pp. 99-166). NY: Wiley.
- Rothbart, M. K., & Posner, M. I. (2006). Temperament, attention, and developmental psychopathology. In D. Cicchetti & D. J. Cohen (Eds.), *Developmental psychopathology: Vol 2. Developmental neuroscience (2nd ed., pp. 465-501)*. Hoboken, NJ: Wiley.
- Rubin, K. H., Burgess, K. B., Dwyer, K. M., & Hastings, P. D. (2003). Predicting preschoolers' externalizing behaviors from toddler temperament, conflict, and maternal negativity. *Developmental Psychology*, 39, 164-176.
- Rubin, K. H., Hastings, P., Chen, X., Stewart, S., & McNichol, K. (1998). Intrapersonal and maternal correlates of aggression, conflict, and externalizing problems in toddlers. *Child Development*, 69, 1614-1629.
- Rutter, M. (1997). Nature-nurture integration: The example of antisocial behaviour. *American Psychologist*, 52, 390-398.
- Salmivalli, C., Kaukiainen, A., Voeten, M., & Sinisammal, M. (2004). Targeting the group as a whole: The Finnish anti-bullying intervention. In P. K. Smith, D. Pepler, & K. Rigby (Eds.), *Bullying in schools: How successful can interventions be?* (pp. 251-273). Cambridge, UK: Cambridge University Press.
- Salmivalli, C., Lappalainen, M., & Lagerspetz, K. (1998). Stability and change of behavior in connection with bullying in schools: A two-year follow-up. *Aggressive Behavior*, 24, 205-218.
- Salmivalli, C., & Nieminen, E. (2002). Proactive and reactive aggression in bullies, victims, and bully-victims. *Aggressive Behavior*, 28, 30-44.
- Schwartz, D., Proctor, L. J., & Chien, D. H. (2001). The aggressive victim of bullying: Emotional and behavioral dysregulation as a pathway to victimization by peers. In J. Juvonen & S. Graham (Eds.), *Peer harassment in school: The plight of the vulnerable and victimized* (pp. 147-174). New York: Guilford.
- Shields, A., & Cicchetti, D. (1998). Reactive aggression among maltreated children: The contributions of attention and emotion dysregulation. *Journal of Clinical Child Psychology*, 27, 381-395.
- Smith, P. (1997). Bullying in life-span perspective: What can studies of school bullying and workplace bullying learn from each other? *Journal of Community Applied Social Psychology*, 7, 249-255.
- Smith, P. K., Pepler, D., & Rigby, K. (Eds.). (2004). *Bullying in schools: How successful can interventions be?* Cambridge: Cambridge University Press.

- Smith, J. D., Stewart, R., & Cousins, B. (2004). Anti-bullying interventions: A survey of Ontario schools. *Canadian Association of Principals Journal*, *12*(1), 9-11.
- Spivak, H., & Prothrow-Stith, D. (2001). The need to address bullying: An important component of violence prevention. *The Journal of the American Medical Association*, *285*, 2131-2132.
- Toblin, R. L., Schwartz, D., Hopmeyer Gorman, A., & Abou-ezzedine, T. (2005). Social-cognitive and behavioral attributes of aggressive victims of bullying. *Applied Developmental Psychology*, *26*, 329-346.
- United Nations Population Fund. (1999). *The State of World Population*. NY: United Nations.
- Unnever, J. D. (2005). Bullies, aggressive victims, and victims: Are they distinct groups? *Aggressive Behavior*, *31*, 153-171.
- Vaillancourt, T., Brendgen, M., Boivin, M., & Tremblay, R. (2003). A longitudinal confirmatory factor analysis of indirect and physical aggression: Evidence of two factors over time? *Child Development*, *74*, 1626-1638.
- van Aken, C., Junger, M., Verhoeven, M., van Aken, M. A. G., & Dekovic, M. (2007). The interactive effects of temperament and maternal parenting on toddlers' externalizing behaviours. *Infant and Child Development*, *16*, 553-572.
- Volk, A., Craig, W., Boyce, W., & King, M. (2006). Adolescent risk correlates of bullying and different types of victimization. *International Journal of Adolescent Medicine and Health*, *18*(4), 575-586.
- Watson, M. W., Fischer, K. W., Andreas, J. B., & Smith, K. W. (2004). Pathways to aggression in children and adolescents. *Harvard Educational Review*, *74*, 404-430.
- Zhou, Q., Eisenberg, N., Wang, Y., & Reiser, M. (2004). Chinese children's effortful control and dispositional anger/frustration: Relations to parenting styles and children's social functioning. *Developmental Psychology*, *40*, 352-366.