THE ROLE OF PATERNAL EMOTION SOCIALIZATION IN THE DEVELOPMENT OF CHILDREN’S EMOTION REGULATION IN THE CONTEXT OF PHYSICAL MALTREATMENT

by

Holly Christine McGinn

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Department of Applied Psychology and Human Development
Ontario Institute for Studies in Education of the University of Toronto

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Abstract

This research was designed to contribute to an understanding of child outcomes and parenting practices associated with father-perpetrated maltreatment, as well as to identify processes that may contribute to emotion regulation difficulties in maltreated children. In particular, the studies described in this dissertation investigated paternal emotion socialization practices as potential pathways to emotion dysregulation in physically maltreated children. In the first study, a normative sample of 200 young adults participated in a retrospective analysis, whereby participants completed questionnaires designed to measure the relationships between history of physical maltreatment, emotion socialization, and current-day emotion regulation. In this study, 26.9% of participants endorsed a childhood history of father-perpetrated physical maltreatment. The second study explored these same relationships in a concurrent analysis of physically maltreating and non-maltreating father-child dyads. Fourteen physically maltreated children and their fathers were recruited from the Children’s Aid Society and treatment programs for abusive fathers, and a control group matched on demographic variables was recruited from the community. Father-child dyads participated in an emotion interaction task where they discussed the child’s experience of negative emotions; interactions were videotaped and coded for fathers’ validating and invalidating responses to children’s emotions. Fathers and children also
completed measures that further assessed paternal emotion socialization, as well as children’s emotion regulation. Across both studies, findings indicated that physically maltreated children experienced more difficulties with emotion regulation than their non-maltreated peers. Moreover, abusive fathers were more likely to use non-supportive (neglect, punish, invalidation) and anger magnifying socialization practices, and less likely to use supportive (reward, validation) emotion socialization. Finally, results showed that the relationship between physical maltreatment and emotion dysregulation was mediated through the indirect effects of emotion socialization (reward, neglect, punish, magnify anger, validation, invalidation). In particular, data from child maltreatment victims consistently indicated that paternal neglect of negative emotions and magnification of anger were the strongest unique mediators. Together, results highlight the important role of fathers in the regulatory development of maltreated children. Furthermore, they provide support for intervention efforts designed to decrease non-supportive emotion socialization, while fostering anger management, emotional responsivity, and emotion coaching skills for physically abusive fathers.
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Chapter One: Introduction

Child maltreatment represents a social problem of epidemic proportions, affecting millions of children worldwide each year (World Health Organization, 2001) and resulting in far-reaching and long-lasting negative consequences (e.g., Springer, Sheridan, Kuo, & Carnes, 2007). Indeed, the connection between child maltreatment and later maladjustment is a well-established one, with abundant literature demonstrating that maltreated children are more likely to suffer from a host of mental and physical health difficulties throughout childhood, adolescence, and into adulthood (e.g., Felitti et al., 1998; Jonson-Reid, Kohl, & Drake, 2012; Springer et al., 2007). Despite the unequivocal and deleterious nature of these consequences, there is currently a paucity of information about specific mechanisms and processes that may contribute to maltreated children’s poor developmental outcomes. As such, a better understanding of key factors that influence these early developmental trajectories is essential to addressing the long-term negative effects of maltreatment.

In an effort to begin highlighting such underlying factors, researchers have increasingly begun to conceptualize the diverse negative outcomes associated with child maltreatment as being characterized by difficulties with emotion regulation (see Kolko, 2002 and Shipman et al., 2004 for reviews) – also referred to as emotion dysregulation (Gratz & Roemer, 2004). This conceptualization is supported by the child development and emotion regulation literatures, which have theorized and observed that emotion regulation impacts a range of other child outcomes and areas of functioning (e.g., Zeman, Cassano, Perry-Parrish, & Stegall, 2006). Mounting evidence from the child abuse literature also lends support to this premise, with research findings emphasizing the important role of emotion regulation as a mediating variable linking earlier child maltreatment to later psychopathology and health-
risky behaviours (e.g., Alink, Cicchetti, Kim, & Rogosch, 2009; Kim & Cicchetti, 2010; Messman-Moore, Walsh, & DiLillo, 2010). Despite the rapidly developing literature documenting the significant relationship between childhood maltreatment and emotion dysregulation, less is presently known about specific parenting factors that have the potential to explain the etiological links of this relationship. For instance, although low maternal sensitivity and high parental hostility have both been linked with child maltreatment (Kolko, 2002; Kotch et al., 1995; Kotch et al., 1997; Milner & Dopke, 1997), the relationships between these parenting factors and maltreated children’s emotion regulation have not yet been properly addressed. Another potentially relevant mechanism that has received very little empirical attention is parental socialization of emotion.

Parental socialization of emotion is considered to be a process through which parents affect a child’s understanding, experience, expression, and modulation of affect (Eisenberg, Cumberland, & Spinrad, 1998). Although research with normative samples has demonstrated the importance of parental socialization of emotion (e.g., Gottman, Katz, & Hooven, 1996), little is presently known about the impact of parental emotion socialization practices on the development of emotion regulation skills in maltreated children. Only one known series of studies, completed by Shipman and colleagues (Shipman et al., 2007; Shipman, Schneider, & Sims, 2005; Shipman & Zeman, 2001), has begun to explore how deficits in maternal socialization of emotion may act as an underlying process through which child abuse affects children’s subsequent emotion regulation. While these studies have made important gains in highlighting the importance of emotion socialization research within maltreatment populations, replication of these findings is needed. Moreover, several conspicuous gaps
remain within the current literature base; of particular importance, no known studies have yet examined the role of emotion socialization practices in maltreating fathers. This is a noteworthy limitation given that, in Canadian two-parent families, fathers are the alleged perpetrators in a majority of reported cases of physical child abuse (Scott & Crooks, 2004; Trocmé et al., 2001; Trocmé et al., 2005). Given the high prevalence of father-perpetrated abuse, increased understanding of the role of fathers in the emotional development of maltreated children is extremely important. Specifically, research investigating the relationship between maltreating fathers’ emotion socialization practices and children’s regulatory development would be a valuable asset to the child maltreatment literature and could help to inform intervention efforts with maltreating fathers and their children.

The current studies that comprise this dissertation represent the first known attempts to investigate how child maltreatment might relate to paternal socialization of emotion and the development of children’s emotion regulation within the context of father-perpetrated abuse. The major hypothesis of this dissertation is that children who have physically abusive fathers will demonstrate deficits in their emotion regulation skills, and the relationship between parental maltreatment and emotion regulation will be mediated by fathers’ use of emotion socialization techniques. To set the context for this research, the extant literature is reviewed across five main sections. The first section provides a brief overview of the nature, prevalence, and consequences of child maltreatment. The second section addresses emotion regulation through a review of literatures related to the acquisition of emotion regulation skills in normally developing children, as well as the emotional development of children who have been maltreated. The third section reviews parental socialization of emotion and
maltreating parents’ influence on children’s regulatory functioning. The fourth section highlights a key gap within the current literature base, discussing the dearth of information about the role of fathers, especially within the context of maltreatment and emotion socialization research. Finally, the fifth section concludes with a summary of the current dissertation’s hypotheses, highlighting the need for a closer examination of the relations between father-perpetrated maltreatment and child emotion regulation through the process of paternal socialization of emotion.

**Child Maltreatment**

Child maltreatment has been defined in several ways, but guidelines commonly include any incidents of harm that a child experiences while in the care of a parent or caregiver, either through direct actions or through neglect to provide a component of care necessary for healthy child growth and development (Public Health Agency of Canada, 2006). One common form of child maltreatment is physical abuse, with exposure to intimate partner violence, neglect, emotional abuse, and sexual abuse representing other all-too-common forms of child maltreatment (Trocmé et al., 2010). While precise global prevalence rates are not currently available, research has nevertheless established child maltreatment as a shockingly common form of childhood adversity, with worldwide estimates suggestive of a global epidemic involving approximately 40 million victims of childhood abuse per year (World Health Organization, 2001).

**Prevalence.** North American child protection authorities receive hundreds of thousands of reports of child abuse and neglect each year (Runyon, Kenny, Berry, Deblinger, & Brown, 2006). Estimates from the National Child Abuse and Neglect Data System
(NCANDS) in the United States indicate that over 3 million children were the subjects of child maltreatment investigations in the year 2011 alone, representing a national average rate of 41.2 investigations per 1,000 children (i.e., 4.1% of the child population). Of these investigations, a total of 676,569 children were confirmed as victims of abuse and/or neglect, representing an average of 9.1 victims per 1,000 children (i.e., 0.9% of the child population; U.S. Department of Health and Human Services, 2012). In Canada, findings from the third Canadian Incidence Study of Reported Child Abuse and Neglect (CIS) revealed similar statistics, with 235,842 documented cases of investigated child maltreatment throughout the year 2008, representing 39.2 investigations per 1,000 children (i.e., 3.9% of the child population; Trocmé et al., 2010). Of these cases, 85,440 investigations were substantiated (14.2 cases per 1,000 children or 1.4% of the child population). This included 17,212 cases of physical maltreatment, with 29,259 additional cases of exposure to intimate partner violence, 28,939 cases of neglect, 7,423 cases of emotional maltreatment, and 2,607 cases of sexual abuse. Eighteen percent of substantiated investigations involved more than one category of maltreatment and an additional 8% of investigations represented suspected cases of abuse that were unable to be substantiated (Trocmé et al., 2010). Although these prevalence rates include both familial and non-familial abuse, it is disconcerting to note that parents have been well established as the most common perpetrators of child maltreatment (e.g., Trocmé et al., 2001; U.S. Department of Health and Human Services, 2012).

While national prevalence statistics provide important insight into the high incidence rates of child abuse, they inevitably underestimate the true magnitude of the problem due to the fact that maltreatment is a highly under-reported phenomenon (MacMillan et al., 1997;
Public Health Agency of Canada, 2010). In fact, an Ontario community sample indicated that only 5.1% of respondents with a self-reported history of childhood physical abuse reported any historical contact with child protection agencies (MacMillan, Jamieson, & Walsh, 2003). Additional community samples have demonstrated much higher estimates of maltreatment, with close to one-third of Canadian teens reporting some kind of childhood abuse and/or neglect, and between one-quarter and one-third of adults reporting experiences of physical abuse at some point throughout their childhood (MacMillan et al., 1997; MacMillan, Tanaka, Duku, Vaillancourt, & Boyle, 2013; Wolfe, Scott, Wekerle, & Pittman, 2001).

**Outcomes associated with maltreatment.** The deleterious effects of child maltreatment are extensive and enduring. Along with the risk of physical injury and death, child abuse has been well established as a robust risk factor for later maladjustment (Springer, Sheridan, Kuo, & Carnes, 2003). Abundant literature demonstrates that maltreated children are at increased risk for an array of psychological and behavioural difficulties, including depression, anxiety, aggression, and antisocial behaviour (e.g., Johnson et al., 2002; Jonson-Reid et al., 2012; Malinosky-Rummell & Hansen, 1993; Margolin & Gordis, 2000; Thompson & Tabone, 2010; Vandenbergh & Marsh, 2009). Compared to their non-abused peers, maltreated children are also more likely to have problems with cognitive functioning, academic achievement, and interpersonal relationships (Malinosky-Rummell & Hansen, 1993). Similar adverse effects have also been linked with childhood exposure to intimate partner violence. Indeed, there has been growing recognition that exposure to domestic violence is a form of child maltreatment that is negatively associated with wide-ranging areas
of children’s development, including both emotional and behavioural functioning (e.g., Holt, Buckley, & Whelan, 2008; Stanley, 2011; Wolfe, Crooks, Lee, McIntyre-Smith, & Jaffe, 2003). The diverse and impactful negative outcomes associated with child maltreatment (i.e., physical abuse, sexual abuse, emotional abuse, neglect, and exposure to domestic violence) are highlighted in the 2008 CIS, which found that 46% of maltreated children presented with at least one child functioning issue. The most common concerns involved academic difficulties, depression/anxiety/withdrawal, child aggression, attachment issues, attention deficit hyperactivity disorder, and intellectual or developmental disabilities (Public Health Agency of Canada, 2010).

The negative effects of childhood maltreatment have also been found to extend throughout adolescence and into adulthood, increasing the lifetime risk of mental health disorders, aggression, violence, and delinquency (e.g., Green et al., 2010; Jonson-Reid et al., 2012; MacMillan et al., 2001; Scott, Smith, & Ellis, 2010; Springer et al., 2007). Adults with a history of physical maltreatment are also more likely to engage in maladaptive interpersonal interactions, be violent in their dating relationships, and abuse their own children (Newcomb & Locke, 2001; Wekerle et al., 2001; Wekerle & Wolfe, 1998). Finally, child maltreatment has been emphasized as a serious risk factor for the development of health-risky behaviours, with strong relationships evidenced between adverse experiences in childhood and cigarette smoking, alcoholism, drug abuse, obesity, self-injury, attempted suicide, and sexual promiscuity later in life (e.g., Dietz et al., 1999; Felitti et al., 1998; McCauley, Kern, Kolodner, Dill, & Schroeder, 1997; Moran, Vuchinich, & Hall, 2004; Yates, Carlson, & Egeland, 2008).
Given the diverse sequelae associated with child maltreatment, several researchers have begun to conceptualize emotion dysregulation as a potentially unifying explanation, suggesting that child abuse oftentimes disturbs the acquisition of appropriate emotion regulation skills, which in turn acts as a critical pathway to wide-ranging maladaptive outcomes (e.g., Gross & Muñoz, 1995; Shields & Cicchetti, 1998). Indeed, in comparison to their non-maltreated peers, maltreated children have consistently been shown to have poor emotion regulation abilities (e.g., Maughan & Cicchetti, 2002; Shields & Cicchetti, 1998). Moreover, a growing body of evidence demonstrates the cascading impact of maltreatment on children’s general development and well-being, whereby maltreatment is related to emotion dysregulation, which in turn impedes development in the aforementioned emotional, social, cognitive, and behavioral domains (Maughan & Cicchetti, 2002; Shields & Cicchetti, 1998; Trickett, 1998). Within this framework, the present dissertation investigates emotion dysregulation as a primary outcome variable (rather than a mediating variable) for child maltreatment, representing a precursor to more serious mental health problems.

**Emotion Regulation**

Just as emotion dysregulation is recognized as an antecedent to psychopathology, adaptive emotion regulation skills have been shown to be associated with positive social-emotional outcomes. Current emotion theorists often emphasize the functional role that emotions play in preparing adaptive behavioural, motor, and physiological responses, in assisting decision making, in enhancing memory for important events, and in negotiating social interactions (e.g., Gross & Thompson, 2007). According to this functionalist perspective, appropriate emotional responses can help facilitate an individual’s achievement
of both intrapersonal and interpersonal goals, while inappropriate emotional responses hinder goal attainment and can result in harmful repercussions. For example, while strong emotions can be adaptive, such as when intense fear causes us to react with a “fight or flight” response in dangerous situations, strong emotional arousal can become problematic when it does not match contextual demands (Cicchetti, Ackerman, & Izard, 1995). In general, emotions become maladaptive when they are developmentally and/or situationally inappropriate, are too intense, or last for too long. At such times, regulation of emotion is critical for creating an adaptive match between what is going on around us, how we feel internally, and how we respond. For this reason, the capacity to regulate emotional experience and expression is considered to be one of the most important developmental abilities children must achieve.

Operational definitions of emotion regulation are as diverse as they are abundant (Campos, Frankel, & Camras, 2004; Cole, Martin, & Dennis, 2004; Thompson, 1994); however, most researchers within this domain posit, either directly or indirectly, a theoretical conceptualization of automatic and learned processes through which individuals initiate, maintain, and modify the occurrence, intensity, and duration of feeling states in order to facilitate optimal interaction with their environment (Bargh & Williams, 2007; Campbell-Sills & Barlow, 2007; Cole et al., 2004; Eisenberg, Fabes, Guthrie, & Reiser, 2000; Gratz & Roemer, 2004; Gross & Thompson, 2007). Emotion regulation thus represents a multifaceted phenomenon that includes neurophysiological regulation, redirection of attentional processes, modification of cognitive interpretations, building and accessing coping resources, regulating the emotional demands of familiar settings, and acquiring a broader repertoire of adaptive modes for emotional expression (Thompson, 1994). Given the multidimensional
nature of emotion regulation, it is best understood as a developmentally acquired process moulded by complex interactions between both intrinsic and extrinsic child factors (Calkins, 1994; Thompson, 1994). Intrinsic factors include genetics, biological predispositions (e.g., neurological and hormonal factors), temperament, and processes used to manage one’s own emotions (e.g., emotional cognitions, attention shifting, management of physiological responses), whereas extrinsic influences represent environmental contexts and social-emotional experiences, oftentimes within the context of early parent-child interactions (Keltner, Oatley, & Jenkins, 2013; Sroufe, 1996).

**Emotion regulation and psychopathology.** Interest in emotion regulation has recently burgeoned, especially amongst developmental researchers and psychologists, who have established the acquisition of effective regulatory skills as an essential task of childhood that provides a critical foundation for development across diverse and wide-ranging areas (e.g., Carthy, Horesh, Apter, & Gross, 2010; Davis & Levine, 2013; Halligan et al., 2013; Joormann & Gotlib, 2010; McLaughlin, Hatzenbuehler, Mennin, & Nolen-Hoeksema, 2011). Children with well-developed emotion regulation skills are able to respond to situational and emotional demands with a range of responses that are both flexible and socially acceptable, allowing for spontaneity as well as appropriate inhibition of behaviour (Cole, Michel, & Teti, 1994). As such, emotion regulation is theorized to be paramount to children’s ability to initiate, motivate, and organize adaptive behaviour and prevent overly distressing negative emotions and maladaptive behavioural responses (Cicchetti et al., 1995). In support of this assertion, empirical research has established that the development of socially and contextually appropriate regulatory functioning is linked with many dimensions of child
development, including moral development, social competence, and academic achievement (e.g., Calkins, Gill, Johnson, & Smith, 1999; Denham et al., 2003; Eisenberg, 2000; Graziano, Reavis, Keane, & Calkins, 2007).

The recent surge of interest in children’s regulatory development is also likely the result of growing awareness of the far-reaching negative consequences for children who have difficulties managing their emotions. Key researchers within the field argue that children with dysregulated affect show maladaptive emotional and behavioural responses, including excessive emotional reactivity and/or extreme emotional inhibition, attenuated empathy, contextually inappropriate affective displays, and problematic behaviour (Cicchetti et al., 1995; Cole et al., 1994; Kim & Cicchetti, 2010). As a result, emotion dysregulation has increasingly been incorporated into models of psychopathology and is consistently identified as a key underlying component of behavioural and psychological difficulties (Aldao, Nolen-Hoeksema, & Schweizer, 2010; Bradley, 2000; Cole et al., 1994; Gross, 2007).

Given the complex nature of child and adolescent emotional disorders, it is not surprising that ambiguity continues to exist with respect to disentangling the constructs of emotion regulation and psychopathology. Indeed, one model of psychopathology argues that psychopathology is poor emotion regulation, in that children with disorders are not capable of regulating their emotions in such a way as to meet situational demands (Keltner et al., 2013). Another view of emotional disorder purports that psychological patterns generally considered disordered might actually result from strategic adaptations to the negative environments that some children face (Keltner et al., 2013). A functionalist framework of emotion, which is adopted by the current dissertation, suggests that any evaluation of emotion regulation must
take into account children’s goals and the contexts within which their emotions are managed (Thompson & Calkins, 1996; Thompson & Goodman, 2010). Indeed, this model posits that the emotional management difficulties commonly observed in at-risk children might represent best efforts to cope with difficult environments and/or situations for which there may be no better strategies. Unfortunately, such adversity often results in conflicts between the multiple goals (immediate, long-term) that underlie emotion regulation, whereby the emotion management strategies that are most adaptive for meeting immediate emotional goals (e.g., immediate coping) are out of line with long-term goals (Thompson & Calkins, 1996; Thompson & Goodman, 2010; Werner & Gross, 2010). As a result, when these patterns of emotion regulation persist over time, they become problematic and may jeopardize or impair functioning in such a way as to support or become symptoms of various dimensions of psychopathology (Calkins & Fox, 2002). Taken together, this model highlights the importance of examining the contextual development of emotion regulation, as well as the association between emotion regulation and psychopathology.

To date, much research investigating the relationship between children’s regulatory functioning and psychopathology has already been completed. Empirical investigations have illustrated that children with difficulties in emotion regulation exhibit under-controlled, aggressive behaviour in their social interactions and tend to experience social isolation and rejection by their peers (Calkins et al., 1999; Cole, Zahn-Waxler, Fox, Usher, & Welsh, 1996; Hanish et al., 2004). Several researchers have also argued that individuals who cannot effectively manage their emotional responses experience extended and more debilitating periods of distress, which can later evolve into mood or anxiety disorders (Adrian et al.,
Difficulties with emotion dysregulation are also observed in children with externalizing symptomatology, including ADHD, antisocial behaviour, and aggression (Adrian et al., 2009; Calkins et al., 1999; Campbell, Shaw, & Gilliom, 2000; Eisenberg, Cumberland, et al., 2001; Hill, Degnan, Calkins, & Keane, 2006; Keenan, 2000; Mullin & Hinshaw, 2007; Shipman et al., 2004). In particular, a child’s inability to control negative emotions has been identified as an important precursor to the development of serious psychopathologies including conduct disorder, depression, and personality disorders (Cole et al., 1994; Cole & Hall, 2008; Leibenluft, Charney, & Pine, 2003).

**Emotion regulation in maltreatment contexts.** Maltreated children have consistently been shown to have more difficulties with emotion regulation than their non-maltreated peers, oftentimes presenting with higher levels of emotional lability, fewer constructive strategies for managing emotional arousal, and increased difficulties with attentional control (Kolko, 2002; Shields & Cicchetti, 1997; Shields & Cicchetti, 1998; Shields, Cicchetti, & Ryan, 1994; Shipman et al., 2004; Shipman & Zeman, 2001; Shipman, Zeman, Penza, & Champion, 2000; Thompson & Calkins, 1996). In fact, according to Pollak, Cicchetti, and Klorman (1998), “emotion regulatory problems are among the best documented of the problems maltreated children display” (p. 813). Maltreated children have been found to demonstrate particular difficulties managing negative affect (Hennessy, Rabideau, Cicchetti, & Cummings, 1994; Shields & Cicchetti, 1998), with several studies
demonstrating that maltreated children show less adaptive regulatory skills and fewer effective coping strategies when dealing with anger compared to their non-maltreated counterparts (Shields & Cicchetti, 1998; Shipman, Edwards, Brown, Swisher, & Jennings, 2005; Shipman & Zeman, 2001; Teisl & Cicchetti, 2008). For example, a study by Maughan and Cicchetti (2002) illustrated that nearly 80% of maltreated children presented with patterns of dysregulated emotional expression after witnessing simulated inter-adult anger, as opposed to only 37% of non-maltreated controls. Similarly, several other studies have reported that children exposed to abusive parenting are more likely to inhibit their emotional displays and/or express emotions in inappropriate ways, such as with contextually incongruent expressions of anger, frustration, hostility, and aggressive behaviour (Maughan & Cicchetti, 2002; Rogosch & Cicchetti, 2005; Shields & Cicchetti, 1998; Shipman & Zeman, 2001; Trickett, 1998).

Consistent with the functionalist framework of emotion, some researchers suggest that maltreated children develop abnormal and maladaptive regulatory strategies because these strategies are temporarily adaptive within the immediate context of their abusive environments (Maughan & Cicchetti, 2002). For example, attention deployment is a self-regulatory strategy that involves focusing on certain aspects of the environment in such a way as to contribute to emotion management (Gross & Thompson, 2007). Several research studies have now demonstrated that maltreated children often display heightened attention and sensitivity to cues of anger (Pollak & Kistler, 2002; Pollak, Klorman, Thatcher, & Cicchetti, 2001; Pollak & Sinha, 2002; Shackman & Pollak, 2005), which likely evolves as a means of trying to stay safe and avoid hostile parent-child interactions. Unfortunately, while
strategies like this offer benefits to maltreated children within the context of their abusive home environment, they will inevitably prove to be inappropriate and maladaptive in most other domains (e.g., at school, with peers), ultimately interfering with long-term social-emotional adjustment and well-being (Cole et al., 1994). Indeed, investigations in samples of school-aged children have documented the mediational role of abnormal emotion regulation skills between maltreatment and interpersonal problems (Shields & Cicchetti, 2001), as well as between maltreatment and internalizing and externalizing difficulties (Kim & Cicchetti, 2010). For instance, Maughan and Cicchetti (2002) found that maltreated children tended to display dysregulated affect, which in turn increased their likelihood of experiencing internalizing problems. Similarly, Teisl and Cicchetti (2008) revealed that maltreated children with poor emotion regulation skills were significantly more likely to be rated by peers as aggressive and disruptive. Taken together, these studies illustrate that maltreated children are at significant risk for developing difficulties in their affect regulation, which subsequently acts as a foundation for many problematic outcomes, including more severe psychological and behavioural problems.

Potential pathways to maltreated children’s regulatory development. Historically, maltreatment investigators have generally focused on the outcomes associated with emotion regulation, with less research geared towards understanding the more proximal processes responsible for its development. As such, much remains to be learned about the pathways through which emotion regulation evolves. Indeed, not all maltreated children go on to develop the same maladaptive outcomes and a better understanding as to why this occurs is still needed (Cicchetti & Valentino, 2006; Haskett, Nears, Sabourin, Ward, &
McPherson, 2006). Therefore, as we seek to advance our understanding of maltreated children’s emotional development, a key goal will be to elucidate how child maltreatment leads to emotion dysregulation.

While a review of the behavioural genetics literature is beyond the scope of this dissertation, it is important to acknowledge that children are undoubtedly born with varying dispositional capacities for emotion regulation (Canli, Ferri, & Duman, 2009; Soussignan et al., 2009). Indeed, this conclusion is implicit in findings from twin studies, which demonstrate heritability estimates ranging from 40-70% for various aspects of cognition, temperament, emotion-related personality traits, and psychopathology (Jang, 2005; Jang, Livesley, & Vernon, 1996; Lahey, Van Hulle, Singh, Waldman, & Rathouz, 2011; McGuffin, Riley, & Plomin, 2001; Viken, Rose, Kaprio, & Koskenvuo, 1994). In other words, maltreated children likely inherit genetic risk factors from their abusive parents, which increase their probability of developing maladaptive emotional outcomes (both directly and through an interaction with negative parenting; e.g., Caspi et al., 2002; Lahey, Rathouz, et al., 2011). Nonetheless, despite the undeniable role of genetics, it is equally clear that extrinsic child factors also exert strong impacts on children’s emotion regulation. Moreover, environmental influences represent a particularly important area of study due to their ability to guide and inform prevention and intervention services for at-risk families. Consequently, the current work concentrates on the delineation of malleable vulnerabilities that may contribute to emotion dysregulation within the context of maltreatment.

Many different environmental factors exert influences on children’s regulatory competence. However, experts within the field widely recognize emotions as both products
and processes of interpersonal relationships (Cole et al., 2004; Parke, 1994; Walden & Smith, 1997), with the development of emotion regulation being conceptualized as a socially mediated process originating and evolving primarily within the context of the parent-child relationship (Eisenberg et al., 1998; Kopp, 1989; Morris, Silk, Steinberg, Myers, & Robinson, 2007; Park, Cassidy, Burks, Carson, & Boyum, 1992, as cited in Shipman & Zeman, 2001). For this reason, the present dissertation focuses on the role of parental socialization of emotion as a potential mediating mechanism in the development of, or lack thereof, this fundamental regulatory skill set in maltreated children.

**Parental Socialization of Emotion**

The extensive role played by parents in the development of children’s emotion regulation becomes immediately apparent when one examines the normative progression from relying on parents for the regulation of affect throughout infancy, to periods of child and parent co-regulation and, finally, to the gradual emergence of independent self-regulating capabilities in early and middle childhood (Kopp, 1989). Although young infants use some intuitive, rudimentary strategies to alter their arousal level (e.g., finger sucking), parents are responsible for controlling and regulating the vast majority of their feeling states through the provision of food, clothing, and physical soothing, as well as through their engagement in emotionally responsive interactions (Calkins, 1994; Kopp, 1989). As such, sensitive and responsive parenting is considered central to children’s regulatory development in the early years of life (Kopp, 1989), with studies demonstrating that parents who respond to their children’s emotions in a sensitive and responsive manner are more likely to have children
with secure attachment relationships and more positive, regulated behaviour (Blair et al., 2008; Cassidy, 1994; Kochanska, Murray, & Harlan, 2000; Spinrad et al., 2007).

Parental sensitivity and responsiveness are also believed to influence children’s long-term abilities to regulate their emotions (Calkins, 1994; Cassidy, 1994; Eisenberg et al., 1998; Kopp, 1989). While there are undeniable temperamental differences in children’s emotional reactivity (Worobey & Lewis, 1989), rules about the experience, expression, and acceptability of emotions are taught by parents from an early age, as are strategies for the regulation of affect (Eisenberg, Fabes, & Murphy, 1996; Gable & Isabella, 1992; Stifter & Moyer, 1991). As children grow, parental sensitivity to emotional states evolves into more complex and multifaceted responses to their children’s emotions, which helps children to assimilate lessons about emotion. This construct has been termed “emotion socialization” (e.g., Cassidy, 1994).

**Emotion socialization in normative contexts.** Several theoretical and empirical works support the notion that children learn to regulate affect within the context of parental socialization of emotion, with parent-child interactions reflecting an ongoing process whereby parents teach children how to label, interpret, and understand emotions, as well as how to maintain, alter, and modulate their emotional experiences and expressions (Eisenberg et al., 1996; Gottman et al., 1996; Thompson, 1990, 1991). When utilized effectively, parental socialization of emotion is thought to teach children how to display emotions in healthy and socially appropriate ways, have positive emotional interactions with others, and cope with emotional distress and arousal. Two seminal reviews (Eisenberg et al., 1998; Morris et al., 2007) have suggested that such teaching occurs, in large part, through parental
responses to children’s emotional expression and parental discussion about how to recognize and cope with emotions and the situations that elicit them.

A small group of researchers, progressing along relatively analogous lines of work, have described parents’ reactions to their children’s emotions as one of the most essential means of emotion socialization, resulting in powerful effects on children’s subsequent perception, expression, and regulation of affect. In particular, both Gottman and colleagues (Gottman, Katz, & Hooven, 1996, 1997) and Eisenberg and colleagues (e.g., Eisenberg et al., 1998; Eisenberg, Cumberland, et al., 2001; Eisenberg, Gershoff, et al., 2001) have argued that the way in which parents react to their children’s negative emotions has powerful effects on children’s development and functioning, with well-organized emotion regulation developing through parents’ flexible and consistent responses to children’s emotional displays. Several investigators argue that parents’ adverse reactions to children’s expression of distress, fear, sadness, and anger are associated with negative social-emotional outcomes for children, with parental acceptance of children’s negative emotions showing important links to increased emotion regulation, decreased problem behaviours, and fewer psychological difficulties (Eisenberg et al., 1999; Garside & Klimes-Dougan, 2002; Ramsden & Hubbard, 2002).

Most researchers within the field of emotion socialization dichotomize parents’ emotion-contingent responses into two global categories: those that are supportive and facilitate emotional development (e.g., emotional encouragement, validating responses) and those that are non-supportive and potentially inhibit adaptive functioning (e.g., emotion dismissing, invalidating responses). When parents react to their children’s emotions in a
supportive manner, children are better able to cope with their emotions and, over time, acquire more adaptive regulatory skills. This is demonstrated through their greater emotional understanding and expression, as well as through superior coping skills and social competence (Denham, Mitchell-Copeland, Strandberg, Auerbach, & Blair, 1997; Eisenberg & Fabes, 1995; Eisenberg et al., 1996). In contrast, when parents respond to children’s emotions in non-supportive manners, more negative outcomes are likely, such as increases in child distress, inappropriate emotion regulation strategies, and emotional difficulties (Eisenberg et al., 1996; Eisenberg et al., 1998; Eisenberg & Fabes, 1994; O’Neal & Magai, 2005). In a key longitudinal study, Eisenberg et al. (1999) demonstrated that parents who became upset about their six- to eight-year-old children’s emotions tended to have children with emotion regulation difficulties at ages eight to ten. Similarly, parents’ punitive responses to their eight- to ten-year-old children’s emotional displays predicted children’s emotion regulation deficits at ages ten to twelve.

In an effort to explain this process, Eisenberg et al. (1996) posited that non-supportive reactions to children’s displays of negative emotions are likely to intensify and prolong children’s emotional arousal in emotion-evoking situations and, as a result, increase the likelihood of children engaging in dysregulated behaviour. Eisenberg et al. (2008) further hypothesized that children may learn to view emotions as aversive or threatening when they encounter non-supportive reactions and, as a result, avoid opportunities to explore the meaning of emotions and/or strategies to deal with them. Several empirical studies lend support to this premise, demonstrating that parental rejection, punishment, and/or dismissal of children’s emotions – a concept termed “invalidation” (Linehan, 1993) – leads to children’s
emotional inhibition, avoidant coping responses, and psychological distress (Eisenberg & Fabes, 1994; Eisenberg et al., 1996; Fuchs & Thelen, 1988; Krause, Mendelson, & Lynch, 2003). This can eventually evolve into cyclical transactions between a child’s emotional vulnerability and invalidating social responses from others, leading to the development of pervasive emotion dysregulation (Fruzzetti & Iverson, 2006; Fruzzetti, Shenk, & Hoffman, 2005; Iverson, Shenk, & Fruzzetti, 2009; Linehan, 1993).

Eisenberg et al. (1998) also highlighted the importance of parental discussion of emotion, suggesting that the way in which parents discuss emotion can communicate support and acceptance, while also refining children’s awareness of different affective states. As a result, children raised by parents who speak freely about emotion-related experiences are more likely to discuss their own emotions and have a better understanding of emotions, whereas children whose parents avoid discussions about emotion are more likely to lack information about effective emotion regulation strategies. Indeed, several empirical studies have demonstrated that parents who engage in higher levels of emotion-related discussion and guidance have children with reduced impulsivity and better inhibitory controls, pro-social behaviour, empathy for others, and emotion regulation (Denham et al., 1997; Denham & Grout, 1992; Dunn, Brown, & Beardsall, 1991; Laird, Pettit, Mize, Brown, & Lindsey, 1994; Lunkenheimer, Shields, & Cortina, 2007; Ramsden & Hubbard, 2002).

Gottman et al. (1996) theorized that supportive parental reactions and direct instruction about emotion management together form a larger construct, referred to as emotion coaching. Based on parental interviews, the authors identified two contrasting types of parental meta-emotion philosophies, which were believed to influence how parents
socialized their children to experience and express emotion. Specifically, some parents were found to be high in emotion coaching, demonstrating high emotional awareness and viewing their children’s negative emotions as an opportunity for closeness and teaching. As such, these parents validated their children’s emotions and problem solved with their children by discussing goals and strategies for dealing with the situations that gave rise to the emotions. In contrast, other parents were found to have a meta-emotion philosophy that was low in emotion coaching and tended to be dismissing of their children’s emotional experiences. These parents had low emotional awareness and viewed negative emotions as overwhelming or harmful, often criticizing, ignoring, or denying these emotions in an effort to avoid or discourage them.

Gottman et al. (1996) subsequently demonstrated that parents’ emotion coaching philosophies directly affected children’s regulatory physiology and ability to regulate emotions. Results clearly demonstrated that parents who responded supportively to their five-year-olds’ emotions and used emotion coaching strategies (e.g., helping children express, label, and problem solve their feelings) tended to have children with higher physiological regulation, fewer unregulated problem behaviours, and superior social competence three years later. Moreover, children’s emotion regulation was not affected by general parenting practices, as measured by parental derogation and scaffolding/praising, which suggests that parental socialization of emotion may be a unique predictor of children’s regulatory development, rather than a simple sub-dimension of more general parenting styles.

**The influence of parent gender on emotion socialization.** To date, research within the area of parental emotion socialization has focused almost exclusively on maternal
socialization practices. This is problematic, given that several fathering researchers have argued that fathering is qualitatively different than mothering, with unique implications for child development (Day & Mackey, 1989; McElwain, Halberstadt, & Volling, 2007; Parke, 1994, 1996; Roberts & Strayer, 1987; Rohner & Veneziano, 2001; Stolz, Barber, & Olsen, 2005; Volling, McElwain, Notaro, & Herrera, 2002). In particular, some studies have revealed that mothers and fathers have different types of parent-child interactions with their children, which may influence their children’s emotional development differently (Gottman et al., 1997; Hastings & De, 2008).

Indeed, results from the small number of existing studies that differentially examined maternal and paternal socialization suggest there may be important differences in the ways mothers and fathers respond to their children’s emotions. Specifically, in comparison to mothers, fathers have been shown to provide fewer supportive and more non-supportive responses to their children’s negative emotions (Cassano, Perry-Parrish, & Zeman, 2007; Eisenberg et al., 1996; Garside & Klimes-Dougan, 2002; Hastings & De, 2008; Nelson, O’Brien, Blankson, Calkins, & Keane, 2009). Furthermore, studies by Fuchs and Thelen (1988) and Zeman and Garber (1996) have shown that children report expressing sadness to their fathers less often than their mothers because they expect more non-supportive reactions from their fathers. A few isolated studies have further suggested that fathers are less in tune with their children’s emotions than mothers (Fivush, Brotman, Buckner, & Goodman, 2000; Garside & Klimes-Dougan, 2002), which might help explain why fathers engage in fewer positive emotion socialization experiences with their children.
Researchers remain divided on whether, and if so how, these differences in maternal and paternal socialization relate to child development. Some studies suggest that maternal responses to child emotion play a more central role in children’s emotional development than do paternal responses (Eisenberg et al., 1996; McDowell, Kim, O’Neil, & Parke, 2002). Other investigators have hypothesized that fathers’ impact is indirect in nature. For example, Lamb (2000) proposed that fathers’ positive involvement with their children enhances the mother-child relationship and facilitates healthy developmental outcomes for children through increased maternal responsiveness. In contrast to these studies, Gottman and colleagues (1997) found that fathers’ supportive reactions and coaching of their children’s sadness and anger was directly associated with their children’s social competence three years later. Similar findings were reported by Hastings and De (2008), who showed that fathers’ (but not mothers’) supportive reactions to children’s fear and sadness predicted higher social competence in children with lower cardiac vagal tone, which is often assumed to reflect a less dispositional self-regulation ability. Indeed, a small but important body of evidence has begun to suggest that paternal emotion socialization has important implications for children’s emotional development, especially amongst vulnerable children (Eisenberg et al., 1998; Garside, 2004). Taken together, these findings highlight the need to study the role of paternal socialization of emotion, particularly under conditions of risk.

**Emotion socialization in maltreatment contexts.** Although we know increasingly more about emotion socialization within the context of normative samples, research on the socialization of emotion in children with abnormal developmental trajectories continues to be lacking. This represents a prominent gap in the literature, given that a developmental
psychopathology perspective emphasizes the study of at-risk populations in the building of a comprehensive understanding of developmental processes (Sroufe, 1990). Maltreatment families provide a particularly helpful at-risk comparison group to normative samples in investigations of emotion socialization and children’s regulatory development, as abusive parents are known to demonstrate limited understanding of the emotional complexity of the parent-child relationship, circumscribed use of verbal strategies when managing conflict situations, and poor parent-child interactions (Burgess & Conger, 1978; Erickson & Egeland, 2002; Kavanagh, Youngblade, Reid, & Fagot, 1988; Reid, Taplin, & Lorber, 1981, as cited in Silber, 1990). Moreover, maltreating parents have been shown to have difficulty managing their own emotions (e.g., Shipman et al., 2004) and, as such, may have impairments in their ability to teach their children to self-regulate (Shipman et al., 2005).

Although one might assume that maltreatment directly affects children’s emotional development through persistent experiences of intense negative affect caused by abusive episodes, not all children who have been maltreated demonstrate the same negative outcomes. Indeed, previous research has suggested several risk and resilience factors related to the influence of maltreatment. For example, greater range of abuse (i.e., high vulnerability to different types of victimization, also known as poly-victimization) is associated with more severe and enduring psychological distress (Finkelhor, Ormrod, & Turner, 2007a,b), whereas certain individual, family, and contextual factors have been proposed as potential protective factors for maltreated children (e.g., Cicchetti, Toth, & Rogosch, 2000; Houshyar & Kaufman, 2005). This highlights the complex nature of maltreatment and suggests that additional factors, beyond the abusive incidents themselves, are associated with the degree of
impact maltreatment has. In light of the fact that child maltreatment occurs within a multi-faceted parenting context, it seems reasonable to assume that patterns of parent-child interactions are highly relevant for understanding the way in which maltreated children are negatively impacted by abuse. In particular, given the findings from normative research on emotion socialization, it seems feasible that parental socialization of emotion helps explain how maltreated children develop emotion dysregulation. In other words, it is possible that maltreating parents are more likely to use maladaptive emotion socialization practices, which in turn confers risk for emotion regulation difficulties to their children.

To date, very few researchers have formally evaluated how parents in physically abusive homes socialize their children’s regulation skills. Nonetheless and not surprisingly, preliminary evidence suggests that maltreating parents do indeed engage in disrupted emotion socialization processes, as evidenced by chronic and significant deficiencies in their ability to identify, understand, and respond to their children’s emotions (e.g., Shipman & Zeman, 1999, 2001; Thompson & Meyer, 2007). Moreover, a recent series of investigations completed by Shipman and colleagues (Shipman & Zeman, 2001; Shipman et al., 2005; Shipman et al., 2007) has begun to offer evidentiary support for the hypothesis that parental emotion socialization is a major underlying contributor to emotion regulation difficulties in maltreated children. In a study completed in 2001, Shipman and Zeman interviewed maltreating and non-maltreating mothers, along with their children; they found that maltreated children expected less maternal support in response to their emotional displays, were less likely to display emotions to their mothers, and generated fewer effective coping strategies for anger, compared to their non-maltreated peers. Furthermore, compared to non-maltreating controls,
maltreating mothers demonstrated less understanding of their children’s emotional displays and fewer effective strategies for helping their children to cope with emotionally arousing situations. In subsequent research, Shipman et al. (2005) utilized observational data of mother-child dyads to demonstrate that supportive maternal reactions to children’s emotions mediated the relation between children’s maltreatment status and internalizing problems. Finally, Shipman et al. (2007) demonstrated that maltreating mothers engaged in lower levels of validation and emotion coaching, with higher levels of invalidation, in response to their children’s emotions, compared to non-maltreating mothers. These emotion socialization differences were once again found to mediate the relationship between maltreatment and children’s emotion regulation capacities.

Taken together, these studies suggest that parental emotion socialization practices may be critical factors in determining adaptive versus maladaptive functioning in maltreated children. However, replication and extension of these findings is required in order to develop a better understanding of the relations between child maltreatment, parental use of emotion socialization practices, and children’s emotion regulation. Moreover, given the scarcity of empirical work examining fathers’ emotion socialization practices, future work focusing on paternal socialization of emotion is required in order to more clearly understand some of the mechanisms through which father-perpetrated maltreatment may influence child development outcomes. In light of the aforementioned research demonstrating significant relationships between maltreatment, maternal emotion socialization, and emotion regulation, it seems likely that the emotion socialization practices of abusive fathers would also influence children’s regulatory development. However, empirical investigations are needed to confirm
this relationship and to begin to elucidate which aspects of paternal emotion socialization are most important within the context of maltreatment. For instance, a recent study completed by Asla, de Paúl, and Pérez-Albéniz (2011) found that fathers at high risk for child maltreatment showed greater difficulties with emotion recognition than low-risk fathers. As such, it seems plausible that abusive fathers are more likely to be characterized by Gottman’s (1996) emotion dismissing meta-emotion philosophy, which is low on emotional awareness. As a result, maltreatment fathers may frequently ignore or dismiss their children’s emotions and make few attempts to engage in emotion coaching interactions. Moreover, given that physical abuse has long been conceptualized as developing within the context of hostile and coercive parent-child relations (Chaffin, 2006; Patterson, 1982), abusive fathers may also tend to respond to their children’s negative emotions in a manner that is punitive and/or intimidating in nature.

The Neglect of Fathers

The relative neglect of the paternal role represents a critical limitation of the present literature (Lamb 2004), with fathers rarely being included in historical studies of parenting and developmental psychopathology. Over the last few decades, this pattern has gradually started to improve within research domains examining normative developmental processes (Cabrera, Tamis-LeMonda, Bradley, Hofferth, & Lamb, 2000; Day & Lamb, 2004; Lamb, 1975, 2004; Parke, 1996; Pleck & Masciadrelli, 2004; Pruett, 1998). For instance, several studies have begun to establish the significant role that fathers play in their children’s overall development (Lamb & Tamis-LeMonda, 2004). A recent review of the fathering literature completed by Allen and Daly (2007) concluded that father involvement has considerable
implications for children’s social, emotional, physical, and cognitive development. In particular, father-child interactions including paternal involvement, engagement, and warmth have been linked to a host of positive child outcomes, including superior social competence, higher academic achievement, lower delinquency, and fewer behaviour problems (Amato & Gilbreth, 1999; Kahen, Katz, & Gottman, 1994; Parke et al., 2004; Pleck & Masciadrelli, 2004; Russell & Russell, 1996).

In contrast to these recent gains within the field of normative child development, research investigating the role of fathers in child maltreatment continues to be lacking, with little currently known about the processes involved in father-perpetrated abuse (Crooks, Scott, Francis, Kelly, & Reid, 2006; Dubowitz, 2006, 2009; Francis & Wolfe, 2008; Guterman & Lee 2005; Haskett, Marziano, & Dover, 1996; Holden & Barker, 2004; Lamb, 2004; Sternberg, 1997). Historically, maltreatment research has overwhelmingly focused on the role of mothers, with little analysis of potential differences in maternal- versus paternal-perpetrated abuse (Haskett et al., 1996; Pittman & Buckley, 2006). This was demonstrated through a broad examination of the available physical maltreatment research, which found that information on fathers was included in less than half of the literature, with the total number and percentage of fathers in research samples being significantly less than that of mothers (Haskett et al., 1996).

One contributing factor to the neglect of fathers in the maltreatment literature is likely the erroneous belief that mothers are the predominant perpetrators of abuse (Scott & Crooks, 2007). However, in contrast to this belief, cursory statistics presented in national incidence studies suggest a roughly equal gender split between mothers and fathers as perpetrators
Moreover, a growing body of evidence suggests that fathers are disproportionately responsible for cases of physical child maltreatment, particularly in its most severe forms (e.g., Brewster et al., 1998; Daley & Piliavin, 1982; Jason & Andereck, 1983; Rosenthal, 1988; Sinal et al., 2000; Stiffman, Schnitzer, Adam, Kruse, & Ewigman, 2002). For instance, MacMillan et al. (1997) found that natural fathers were the most common perpetrators of physical maltreatment in a large-scale community sample conducted in Ontario. In addition, although the 2003 CIS indicated that mothers and fathers perpetrate physical abuse at relatively equivalent rates, the authors acknowledged that these estimates were biased by the fact that 30% of physical abuse victims were living in lone female-parent families. Indeed, when examining two-parent families, estimates were revised and indicated that fathers were the alleged perpetrators in 67% of substantiated physical abuse cases (Scott & Crooks, 2004; Trocmé et al., 2005). The disparity between mother- and father-perpetrated abuse is even more substantial when severe forms of maltreatment are considered, with fathers being the predominant perpetrators of violent and injurious abuse (Daley & Piliavin, 1982; Jason & Andereck, 1983; Rosenthal, 1988).

Another reason for the dearth of research on father-perpetrated maltreatment is likely related to the misconception that maltreating fathers are largely uninvolved in the lives of their children. In reality, a growing body of work reveals that abusive fathers are involved in parenting both before and after incidents of maltreatment. Some fathers continue to live with their children, some fathers see their children on access visits, and other fathers become caregivers of children from new relationships (Francis & Wolfe, 2008; Guterman & Lee,
2005; Salisbury, Henning, & Holdford, 2009; Scott & Crooks, 2004). Altogether, these research findings highlight the fact that fathers are common perpetrators of child maltreatment and are often actively involved in parenting. As such, developing an increased understanding of parenting factors related to maltreating fathers is an imperative endeavor – one which will hopefully serve to help inform future research, policy development, and intervention services for abusive fathers and their children.

**Conclusions**

It is now well documented that child maltreatment is a prevalent social problem that transmits a robust risk of negative and enduring consequences. In addition, the existing literature has established a meaningful link between childhood maltreatment and subsequent emotion regulation difficulties, with much of the empirical research showing higher rates of emotion dysregulation amongst children with a history of maltreatment than amongst their non-maltreated peers. However, while our knowledge of the social-emotional sequelae of being reared by a maltreating parent has expanded greatly over the last few decades, several prominent gaps continue to remain within the literature. In particular, little is known about some of the mechanisms that may underlie the relationship between children’s experiences of maltreatment and their ensuing emotion dysregulation. Although researchers have recently begun to identify parental emotion socialization as an important pathway through which children’s emotion regulation develops, only one known series of studies has explored this relationship within the context of child maltreatment (Shipman & Zeman, 2001; Shipman et al., 2005; Shipman et al., 2007). As such, replication of this research represents an important area of work for future investigators. In addition, the extant literature has in large part limited
its investigations to mother-perpetrated abuse. This bias has persisted despite research demonstrating that fathers are frequent perpetrators of child maltreatment. Consequently, further research on paternal maltreatment and, in particular, the specific role of paternal emotion socialization in the link between maltreatment and emotion dysregulation, are much needed areas of research and serve as the primary investigative goals of the present dissertation.

**Proposed Research Studies and Hypotheses**

The current dissertation addresses the aforementioned gaps in the literature and adds to the existent child maltreatment knowledge base by offering a critical examination of the relationship between paternal emotion socialization and child emotion regulation, in the context of father-perpetrated child maltreatment. In order to remain consistent with past research, emotion socialization was generally examined according to dichotomized categories of supportive and non-supportive emotion socialization practices. Supportive emotion socialization practices were conceptualized as emotion-contingent responses that communicated awareness and acceptance of a child’s emotions, while being validating and/or emotion coaching in nature. In contrast, non-supportive emotion socialization practices were operationalized as being emotion-dismissing (e.g., ignoring or minimizing), invalidating, punishing, and/or escalating in nature. Within this framework, the current dissertation examines maltreating fathers’ responses to their children’s negative emotions through two consecutive studies: the first study was conducted using a community sample of university students and the second study examined the same constructs within a high-risk clinical sample. Given previous research findings suggesting that different types of maltreatment
predict different outcomes (English et al., 2005), both studies focused on physical abuse as the primary maltreatment type.

In the first study, a retrospective design was utilized to gather information from a normative sample of young adults about their fathers’ use of emotion socialization strategies and physical maltreatment during childhood. Data was also collected on participants’ current-day emotion regulation in order to determine whether physically abused children develop a pattern of emotion dysregulation that persists into early adulthood. This design allowed for an understanding of the relationship between physical maltreatment, parental emotion socialization, and emotion regulation skills within the context of a larger scale sample, and also provided some insight into the enduring nature of these relationships. In the second study, the relationship between paternal socialization of emotion and children’s emotion regulation was examined in more detail, this time using multiple methods of measurement (i.e., father-report, child-report, and observation) and a high-risk clinical sample. Specifically, differences were examined between father-child dyads with a verified history of father-perpetrated maltreatment and those without.

**Hypotheses.** Study hypotheses were shared across both Study 1 and Study 2. The first major hypothesis of this dissertation was that children who had been physically abused by their fathers would demonstrate greater emotion regulation deficits than children without a history of maltreatment. In addition, it was hypothesized that physically maltreating fathers would demonstrate less supportive socialization practices and more non-supportive socialization practices in response to their children’s emotions compared to non-maltreating fathers. In particular, it was anticipated that maltreating fathers would have difficulty
responding to their children’s negative emotions, as potentially demonstrated through decreased responsivity (i.e., ignoring their children’s expressed emotion) and/or increased coercive reactions. Finally, it was posited that the relationship between paternal maltreatment and child emotion dysregulation would be mediated by fathers’ use of emotion socialization techniques (see Figure 1 for a schematic overview of the proposed research relationships). It was expected that all of these relationships would be observed during both childhood (Study 2) and early adulthood (Study 1). An overview of general conclusions gathered from both studies is presented in a final discussion section, along with an exploration of implications for theory, research, and practice.

Figure 1. Schematic of Proposed Relationships between General Research Constructs.
Chapter Two: Study One

Method

The present study is part of a larger prospective international parenting study being conducted by a consortium of researchers in all major world regions (Angèle Fauchier & Murray Straus, Principal Investigators). The research methodology for this study was approved by the Research Ethics Board at the University of Toronto (REB # 24539; see Appendix 1).

Participants. Data was collected from a sample of 200 undergraduate students who were able to report on their relationship with their mother (or mother figure; e.g., step-mother, adoptive mother) and father (or father figure; e.g., step-father, adoptive father) when they were 10 years old\(^1\). All research participants were randomly recruited through the psychology subject pool at the University of Toronto; the pool consisted of students enrolled in the university’s introductory psychology course who had indicated their interest in participating in research. The mean age of the current sample was 18.7 years, with a range of 18 to 26 years.

Procedure. Students who were interested in participating and met study eligibility (i.e., had a mother and father figure to report on) were invited to attend a one-time research appointment to complete data collection. The current author and a second graduate student collected all data, with approximately 1-8 study participants completing questionnaires at any one time. Participants were provided with a research information letter, which outlined the

\(^{1}\) The focus on age 10 was determined by the international parenting study. This age was reportedly selected because it strikes a balance between being old enough for most participants to be able to recall the period, but young enough that their mothers and fathers were still engaging in regular discipline and parenting behaviours.
nature and purpose of data collection, before providing written consent for participation. They subsequently received instructions to complete the questionnaires privately and anonymously. Completion of the study protocol required approximately 1 hour and all participants were compensated with $20 in recognition of the time commitment required to complete research questionnaires. Before leaving, all participants were provided with a written list of resources and support services in case any participants were currently experiencing continued abuse and/or in case the answering of any research questions elicited feelings of emotional discomfort.

**Measures**: Adult recall

**Demographic information.** Participants completed question sets related to their demographic characteristics (e.g., gender, age), socioeconomic status (e.g., parents’ level of education, parents’ employment status, family household income), family characteristics (e.g., parental marital status), race/ethnicity (e.g., Asian, Caucasian/White, Hispanic, African-Canadian), and country of origin. These variables helped to provide additional insight into the characteristics of participants.

**Physical maltreatment.** The adult recall version of the Parent-Child Conflict Tactics Scale (CTSPC; Straus, Hamby, Finkelhor, Moore, & Runyan, 1998), a 20-item questionnaire that measures child maltreatment, was used to assess experiences of physical abuse during childhood. In this study, participants were asked to retrospectively endorse the frequency with which each of their parents used various behaviours when they were 10 years old: never,

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2 Although the current study was conducted within the context of a larger international parenting study, only measures utilized for the purposes of the present study are described.
once, twice, 3-5 times, 6-10 times, 11-20 times, and more than 20 times. The CTSPC has five subscales, including non-violent discipline, psychological aggression, minor physical assault (corporal punishment), severe physical assault (physical abuse), and very severe physical assault (severe physical abuse). Previous research has indicated that the CTSPC scales have moderate internal consistency, with adequate discriminant and construct validity (Bennett et al., 2006; Straus et al., 1998).

For the purposes of this study, each item was dichotomized with a score of 1 if there was at least one occurrence of the item or 0 if there were no occurrences of the item. This information was then used to identify participants who had experienced at least one episode of paternal and/or maternal physical maltreatment (i.e., severe or very severe physical violence; e.g., “hit you with a fist or kicked you hard”) at 10 years of age. Studies have demonstrated that the CTSPC is a useful instrument in identifying the presence of maltreatment in a general population (Straus et al., 1998).

Emotion regulation. The Difficulties in Emotion Regulation Scale (DERS; Gratz & Roemer, 2004) was utilized to assess current emotion dysregulation in participants. This 36-item self-report instrument collects information on difficulties within the following six dimensions of emotion regulation: lack of emotional awareness (e.g., “I pay attention to how I feel” [reverse scored]), lack of emotional clarity (e.g., “I have difficulty making sense out of my feelings”), non-acceptance of emotional responses (e.g., “When I’m upset, I feel ashamed with myself for feeling that way.”), limited access to emotion regulation strategies perceived as effective (e.g., “When I’m upset, I know that I can find a way to eventually feel better” [reverse scored]), difficulties controlling impulses when experiencing negative emotions
(e.g., “When I’m upset, I lose control over my behaviors”), and difficulties engaging in goal-directed behaviors when experiencing negative emotions (e.g., “When I’m upset, I have difficulty getting work done”). Participants were asked to indicate how often the items applied to themselves on a five-point scale where (1) is ‘almost never (0-10%)’, (2) is ‘sometimes (11-35%)’, (3) is ‘about half the time (36-65%)’, (4) is ‘most of the time (66-90%)’, and (5) is ‘almost always (91-100%).’ The DERS provides a total score that represents overall difficulties in emotion regulation, as well as scores for the six specific subscales, where a higher score reflects greater problems with emotion regulation.

In support of the utility of the DERS, scores on this measure have been found to demonstrate good test–retest reliability in a sample of undergraduate students (Gratz & Roemer, 2004), with high internal consistency in both clinical (e.g., Fox, Axelrod, Paliwal, Sleeper, & Sinha, 2007; Gratz, Tull, Baruch, Bornovalova, & Lejuez, 2008) and nonclinical populations (e.g., Gratz & Roemer, 2004; Johnson et al., 2008). The DERS has also been shown to have adequate convergent validity with established and experimental measures of emotion (dys)regulation and emotional avoidance, as well as adequate predictive validity of self-reported behavioural outcomes associated with emotion dysregulation (i.e., self-harming behaviors and intimate partner abuse; Fox et al., 2007; Gratz, Bornovalova, Delany-Brumsey, Nick, & Lejuez, 2007; Gratz, Paulson, Jakupcak, & Tull, 2009; Gratz & Roemer, 2004, 2008). For the present study, only the total emotion dysregulation scale was used; the internal consistency of this scale when used with the current sample was excellent (α = .93).

**Emotion socialization.** A modified version of the Emotions as a Child Scale (EAC; Magai, 1996) was included to retrospectively assess emotion socialization strategies used by
participants’ fathers in childhood. The original EAC is a parent self-report questionnaire; however, for the current study, this measure was modified for use with adults who were retrospectively reporting on their fathers’ use of emotion socialization techniques when they were 10 years old. The structure and format of this retrospective version of the EAC was identical to the original EAC. In completing the questionnaire, participants were asked to indicate how typical it was for their father to use each of 15 different behaviours in response to each of three emotions (sadness, anger, and fear) using a five-point Likert-type scale ranging from (1) ‘never’ to (5) ‘very often’. Overall, five different emotion socialization strategies were assessed for each emotion, including: reward (providing comfort, empathizing, problem solving; e.g., “when I was sad/angry/fearful as a child, my father helped me deal with the issue that made me sad/angry/fearful”); punish (expressing disapproval, making fun of a child; e.g., “when I was sad/angry/fearful as a child, my father told me that I was acting younger than my age”); override (distracting behaviours, such as telling a child who expresses sadness to cheer up or buying a present for the child; e.g., “when I was sad/angry/fearful as a child, my father told me not to worry”); neglect (ignoring a child’s emotions; e.g., “when I was sad/angry/fearful as a child, my father did not pay attention to my sadness/anger/fear”); and magnification (matching or amplifying the emotional expression of a child, such as becoming fearful when a child shows fear; e.g., when I was sad/angry/fearful as a child, my father got very sad/angry/fearful”).

Various versions of the EAC have demonstrated evidence of validity. Results of factor analyses from previous research suggest that reward and override are generally supportive/facilitative strategies and neglect and punish are generally non-
supportive/inhibiting strategies, while magnification operates as a non-supportive strategy for anger but not for sadness or fear (Garside, 2004; Klimes-Dougan et al., 2001). Most scales of the EAC have been shown to have acceptable levels of internal consistency and test-retest reliability (Garside, 2004; Garside & Klimes-Dougan, 2002; Klimes-Dougan, Brand, & Garside, 2001, as cited in Klimes-Dougan et al., 2007; Klimes-Dougan et al., 2007). In a preadolescent inner city sample, the internal consistency of global emotion socialization strategies was generally strong but the internal consistency of individual, emotion-specific subscales varied from weak to strong (O’Neal & Magai, 2005). Similar findings were observed for the current sample, whereby internal consistency for individual emotion-specific subscales ranged from poor to excellent (Cronbach’s alpha ranging from .59 to .92). An examination of subscale intercorrelations demonstrated that many emotion socialization strategies were highly correlated within strategy type and across emotion type (i.e., sadness, anger, and fear), suggesting that these measures could be collapsed into more global scales of emotion socialization strategies. For reward, the three emotion-specific subscales showed high intercorrelations, ranging from .81 to .88, and the Cronbach’s alpha for the total reward scale was .94, indicating strong internal consistency. Similar results were observed for the domains of override, neglect, and punish; correlations among emotion-specific scales ranged from .75 to .78, .67 to .81, and .58 to .63, with Cronbach’s alphas for total scales of .91, .89, and .82, respectively. When looking at the emotion-specific magnification subscales, correlations between emotion types were notably lower, ranging from .28 to .54. Moreover,
Cronbach’s alpha for the total magnification scale was below acceptable levels (α = .58), suggesting that this scale should not be collapsed into a total magnification scale. As a result, the decision was made to use total emotion socialization scales for reward, neglect, override, and punish, while keeping magnification scales emotion-specific. See Appendices 2 and 3 for intercorrelations across emotional socialization subscales, and all Cronbach’s alpha values.

**Data analysis strategy.** Data analyses were conducted using the Statistical Package for the Social Sciences (SPSS; Student Version 20.0 for Windows and Mac OS X) and began with careful examination of the data. Means, standard deviations, and additional descriptive data (e.g., skew, kurtosis) were obtained for the entire sample for all variables of interest, which included: emotion dysregulation (i.e., DERS total scale), reward (i.e., EAC reward scale), neglect (i.e., EAC neglect scale), punish (i.e., EAC punish scale), override (i.e., EAC override scale), magnification of anger (i.e., EAC magnify anger scale), magnification of sadness (i.e., EAC magnify sadness scale), and magnification of fear (i.e., EAC magnify fear scale). These descriptive analyses helped to determine the normality of variable distributions. Furthermore, Cronbach’s alphas were calculated for each measure to determine the internal consistency of these measures with this particular sample.

Subsequently, data from the CTSPC was used to divide participants into two groups: (1) no paternal physical maltreatment (i.e., participant did not endorse any items from the severe or very severe physical violence scales of the CTSPC) and (2) paternal physical

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3 The minimum requirement for adequate internal consistency has been recommended as .7 (Kline, 1993).
maltreatment (i.e., participant endorsed items included in the paternal severe or very severe physical violence scales of the CTSPC; e.g., “Hit you with a fist or kicked you hard”). Simple frequency statistics were used to explore basic descriptive information and investigate the prevalence of fathers’ use of physical maltreatment. Basic demographic characteristics of the paternal maltreatment group and the paternal non-maltreatment group were compared using t-tests and chi-square statistics for continuous and categorical variables, respectively. This information allowed for a better understanding of the demographics of the two groups and allowed for the identification of any significant group differences.

Next, an analysis of covariance (ANCOVA) and a multivariate analysis of covariance (MANCOVA) were performed to examine the relationships between (1) paternal maltreatment and child emotion dysregulation and (2) paternal maltreatment and paternal emotion socialization, respectively; covariates were selected on the basis of significant group differences identified through the aforementioned comparisons of demographic characteristics. MANCOVA analyses were selected for the latter so that the multiple emotion socialization variables could be examined simultaneously, while controlling for the correlations between these dependent variables. MANCOVAs are recommended by Tabachnick and Fidell (2007) because of the advantages they have over multiple univariate analyses, such as revealing differences not shown in separate ANCOVAs, protecting against the inflation of Type I error in multiple univariate tests, and identification of effects that may go undetected if certain dependent variables are not analyzed together. A 95% confidence interval was used to determine statistical significance ($p < .05$) and null hypotheses were accepted whenever the $p$-values did not satisfy this criterion.
In the final stage of investigation, mediation analyses were completed. Testing of hypothesized models was initially attempted using Structural Equation Modeling (SEM) with Analysis of Moment Structures software (AMOS; Student Version 19.0 for Windows). First, Confirmatory Factor Analysis (CFA) was used to confirm measurement models for Magai’s (1996) theoretically-derived emotion socialization scales (i.e., EAC reward, punish, neglect, override, and magnify). The magnification model presented with a poor fit and had to be separated into emotion-specific manifest variables (i.e., magnify anger, magnify sadness, magnify fear), while other models demonstrated acceptable fits. However, it was noted that many of the indicator loadings were so high that the emotion socialization constructs were as well represented by manifest variables as they were by latent variables. Next, CFA was used to confirm the emotion regulation measurement model (i.e., DERS). While the emotion regulation latent construct presented with an adequate fit, two subscales were very highly correlated. Moreover, when attempts were made to test the structural models, strong relationships were noted between particular latent variables and the highly correlated emotion regulation indicators. Ultimately, manifest variables presented a clearer picture of the estimated models than latent variables did; as a result, a nonparametric mediation method outlined by Preacher and Hayes (2004, 2008) was ultimately selected as the analysis approach for the present set of analyses.

Although mediation analyses have historically been conducted using Baron and Kenny’s causal steps (Baron & Kenny, 1986), several problems have been identified with this approach. First and foremost, the causal steps approach does not test the significance of the difference between the direct and indirect (i.e., mediated) effect. Moreover, it requires both a
significant $a$-path (predictor variable on the mediator variable) and a significant $b$-path (mediator variable on the outcome variable), despite the fact that these two values are necessarily related (the larger the $a$-path the smaller the $b$-path and vice versa), which can substantially and falsely reduce power. As a result, testing the significance of the $ab$ cross product is now recognized as a superior method for testing mediation (MacKinnon, Lockwood, Hoffman, West, & Sheets, 2002), whereby the cross product models the difference between the direct (predictor variable on outcome variable, also known as $c$-path) and the indirect path (predictor variable on outcome variable accounting for the mediator, also known as $c'$) and provides a test of the statistical significance of the indirect (i.e., mediated) effect. One well-known approach to assessing the statistical significance of the cross product of the coefficients is the Sobel test (Sobel, 1982); unfortunately, the Sobel test assumes a normal distribution of the cross product, which is oftentimes incorrect (Preacher & Hayes, 2004). In contrast, the nonparametric method suggested by Preacher and Hayes (2004, 2008) solves the distribution problem through bootstrapping, whereby kappa samples of the original size are taken from the obtained data (with replacement after each specific number is selected) and indirect effects are calculated in each sample. Bootstrap procedures are particularly well suited for mediation analyses with small samples (Preacher & Hayes, 2004; Shrout & Bolger, 2002); moreover, they are currently considered one of the more valid and powerful methods for testing intervening variable effects (MacKinnon, Lockwood, & Williams, 2004; Williams & MacKinnon, 2008) and are recommended as best practice in the field of developmental psychology (Dearing & Hamilton, 2006).
In the current study, the effect of paternal emotion socialization on the relationship between paternal maltreatment and emotion dysregulation was tested using the Preacher and Hayes (2008) method for comparing single and multiple mediators, which includes a bootstrapping approach to assess indirect effects and contrasts of mediators in the models. First, separate mediation models were examined for each of the potential mediator variables, in order to better understand the impact of each unique mediator. Second, a multiple mediation model including all of the proposed mediators was examined in order to simultaneously assess the effect of multiple paternal emotion socialization strategies in the relationship between paternal maltreatment and emotion dysregulation. Finally, this same multiple mediator model was examined while controlling for the effects of maternal maltreatment.

Multiple mediation models have numerous advantages over separate simple mediation models, including the ability to assess the overall effects of a set of variables (e.g., different aspects of paternal emotion socialization) on the relationship between an independent variable (e.g., paternal maltreatment) and a dependent variable (e.g., emotion dysregulation), as well as reducing parameter bias due to omitted variables (Preacher & Hayes, 2008). For the current study, parameter estimates were based on 5,000 bootstrap samples. As such, the point estimate of the indirect cross product was the mean for these 5,000 samples; the bias-corrected 95% confidence intervals were similar to the 2.5 and 97.5 percentile scores of the obtained distribution over the samples, but with z score-based corrections for bias due to the underlying distribution (Preacher & Hayes, 2004). If the confidence intervals did not contain zero, the point estimate was considered significant at the level indicated.
Results

Procedures used to screen and explore the data gathered for the current study, a discussion of the frequency of students who reported a childhood history of paternal maltreatment, and preliminary descriptive analyses comparing the two groups (i.e., maltreatment and no maltreatment) are presented first. ANCOVA and MANCOVA analyses follow, which include an examination of the relationship between paternal maltreatment and dependent variables of interest. Subsequently, results of single mediation analyses and follow-up multiple mediation analyses are presented to demonstrate how participants with and without a history of paternal maltreatment differed on emotion regulation skills through multiple indicators of paternal emotion socialization in childhood.

Data exploration. Analyses began by screening for the presence of outliers. Based on data screening procedures suggested by Field (2009), outliers were defined as data with \( z \)-scores greater than positive or negative 3.29 on any variable of interest. One outlier for magnification of sadness (\( z = 3.67 \)) and two outliers for magnification of fear (\( z = 5.43 \) and \( 4.09 \)) were identified. These scores fell within the defined range of the measure and it was confirmed that they did not represent a data entry error. As a result, analyses were run with and without the outliers included. Given that no significant differences were noted, and that participants with elevated emotion socialization scores are of particular interest to the current study, it was decided that these outliers would be retained for all analyses.

The mean, standard deviation, range, skewness, and kurtosis of each pertinent study variable was calculated; distributions were examined for each group in order to establish that both the maltreatment and non-maltreatment groups came from normal distributions.
Skewness and kurtosis were included to assess for normality beyond investigating outliers and were tested by evaluating z-scores created by dividing the skew and kurtosis statistics by the standard error of these values. Values greater than positive or negative 3.29 were considered significantly skewed or kurtotic (Field, 2009). The highest obtained values were for magnification of fear (maltreatment skew = 4.97, maltreatment kurtosis = 4.33; non-maltreatment skew = 11.21, non-maltreatment kurtosis = 17.36) and magnification of sadness (maltreatment skew = 4.83, maltreatment kurtosis = 4.22; non-maltreatment skew = 6.74, non-maltreatment kurtosis = 3.83); magnification of anger (maltreatment skew = .46, maltreatment kurtosis = 1.34; non-maltreatment skew = 5.05, non-maltreatment kurtosis = .63) and punish (maltreatment skew = 1.24, maltreatment kurtosis = .17; non-maltreatment skew = 3.80, non-maltreatment kurtosis = 1.96) were also found to have notable skew. The magnification of anger variable and the punish variable were transformed (natural log) and analyses were run with and without these variables transformed. No substantial differences were noted in a comparison of results using transformed versus non-transformed variables; therefore, the non-transformed variables were utilized in all analyses for ease of interpretation (Tabachnick & Fidell, 2007). Several transformations (natural log, square root, reciprocal) were attempted on magnification of sadness and magnification of fear, but these variables were so highly skewed that transformations did not eliminate the non-normality of their distributions. An examination of variable characteristics demonstrated that a large number of participants did not report the use of these emotion socialization approaches. As such, both variables were dichotomized to contrast participants who did and did not report the use of these emotion socialization strategies; analyses were then run with and without these
variables dichotomized. Once again, no significant differences were noted and so the original variables were utilized.

Table 1

Study 1 Demographic Information and Group Comparisons

<table>
<thead>
<tr>
<th>Variable</th>
<th>No Paternal Maltreatment</th>
<th>Paternal Maltreatment</th>
<th>Statistic ($t, X^2$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (years), M (SD)</td>
<td>18.62 (1.06)</td>
<td>19.00 (1.54)</td>
<td>$t(70.74) = -1.66$</td>
</tr>
<tr>
<td>Number of siblings, M (SD)</td>
<td>1.38 (1.09)</td>
<td>1.42 (1.01)</td>
<td>$t(195) = -0.23$</td>
</tr>
<tr>
<td>Gender, n (%)</td>
<td></td>
<td></td>
<td>$X^2(1, N=194) = 8.21^{**}$</td>
</tr>
<tr>
<td>Male</td>
<td>47 (33.1)</td>
<td>29 (55.8)</td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>95 (66.9)</td>
<td>23 (44.2)</td>
<td></td>
</tr>
<tr>
<td>Country of Birth, n (%)</td>
<td></td>
<td></td>
<td>$X^2(1, N=197) = .36$</td>
</tr>
<tr>
<td>Canada</td>
<td>83 (57.6)</td>
<td>28 (52.8)</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>61 (42.4)</td>
<td>25 (47.2)</td>
<td></td>
</tr>
<tr>
<td>Fathers’ education, n (%)</td>
<td></td>
<td></td>
<td>$X^2(2, N=197) = 2.98$</td>
</tr>
<tr>
<td>High school or less</td>
<td>20 (13.9)</td>
<td>8 (15.1)</td>
<td></td>
</tr>
<tr>
<td>Some/All post-secondary</td>
<td>73 (50.7)</td>
<td>33 (62.3)</td>
<td></td>
</tr>
<tr>
<td>Completed post-graduate</td>
<td>51 (35.4)</td>
<td>12 (22.6)</td>
<td></td>
</tr>
<tr>
<td>Fathers’ Employment, n (%)</td>
<td></td>
<td></td>
<td>$X^2(2, N=197) = .48$</td>
</tr>
<tr>
<td>Full time paid work</td>
<td>136 (94.4)</td>
<td>49 (92.5)</td>
<td></td>
</tr>
<tr>
<td>Part time paid work</td>
<td>3 (2.1)</td>
<td>1 (1.9)</td>
<td></td>
</tr>
<tr>
<td>Unemployed/Other</td>
<td>5 (3.5)</td>
<td>3 (5.7)</td>
<td></td>
</tr>
<tr>
<td>Parents’ marital status, n (%)</td>
<td></td>
<td></td>
<td>$X^2(2, N=197) = 4.99$</td>
</tr>
<tr>
<td>Married/Living together</td>
<td>117 (81.3)</td>
<td>40 (75.5)</td>
<td></td>
</tr>
<tr>
<td>Separated/divorced</td>
<td>25 (17.4)</td>
<td>9 (17.0)</td>
<td></td>
</tr>
<tr>
<td>Other (e.g., died, adopted)</td>
<td>2 (1.4)</td>
<td>4 (7.5)</td>
<td></td>
</tr>
<tr>
<td>Family income level, n (%)</td>
<td></td>
<td></td>
<td>$X^2(4, N=193) = 8.76$</td>
</tr>
<tr>
<td>$0-39,999</td>
<td>30 (21.4)</td>
<td>15 (28.3)</td>
<td></td>
</tr>
<tr>
<td>$40,000-59,999</td>
<td>15 (10.7)</td>
<td>12 (22.6)</td>
<td></td>
</tr>
<tr>
<td>$60,000-79,999</td>
<td>24 (17.1)</td>
<td>10 (18.9)</td>
<td></td>
</tr>
<tr>
<td>$80,000-99,999</td>
<td>20 (14.3)</td>
<td>6 (11.3)</td>
<td></td>
</tr>
<tr>
<td>Over $100,000</td>
<td>51 (36.4)</td>
<td>10 (18.9)</td>
<td></td>
</tr>
</tbody>
</table>

Note: $p < .05;^{*} p < .01;^{**} p < .001$

Preliminary analyses. Two hundred undergraduate students participated in the current study. Participants had a mean age of 18.7 years ($SD = 1.21$; range = 18-26); 39.1%
(n = 77) were male and 60.9% (n = 120) were female. Three participants did not report on paternal maltreatment and thus were excluded from analyses. For the remaining participants, a simple frequency analysis demonstrated that 26.9% (n = 53) reported experiencing at least one incident of physical maltreatment at the hands of their father at age 10.

Table 1 (above) presents the descriptive statistics of the demographic variables of interest across maltreatment status. Results showed a significant relationship between paternal maltreatment status and gender, \(X^2(1, N=194) = 8.21, p < .01\), with males being more likely to report maltreatment by their fathers than females. When prevalence rates were calculated separately for males and females, results demonstrated that 38.2% (n = 29) of male participants endorsed a history of physical maltreatment by their fathers, in comparison to only 19.5% (n = 23) of female participants. No other significant demographic differences were found between the maltreatment and non-maltreatment groups. As a result, gender was the only demographic variable controlled for in subsequent analyses.

**History of maltreatment and child emotion regulation.** A one-way analysis of covariance (ANCOVA) was conducted to test the hypothesis that there would be mean differences in the emotion regulation scores of participants who did and did not report a history of paternal maltreatment, after controlling for gender effects. For this analysis, the assumptions of ANCOVA were met. In particular, the homogeneity of the regression effect was evident for the covariate, the covariate was linearly related to the dependent measure, and Levene’s test of equality of error variances was non-significant. Analysis revealed a statistically significant ANCOVA effect, \(F(1,190) = 5.49, p < .05, \eta^2 = .03\), demonstrating
that those participants who did and did not report a history of maltreatment at age 10 experienced differences in their emotion regulation. The mean emotion dysregulation scores were in expected directions, with participants who reported a history of paternal maltreatment reporting greater overall emotion dysregulation \((M = 2.39; SD = .57)\) as compared to participants who did not report a history of maltreatment \((M = 2.17; SD = .50)\).

**History of maltreatment and paternal emotion socialization.** A MANCOVA (controlling for gender) was performed to test significant differences in reported paternal emotion socialization practices amongst participants who did and did not report a history of paternal maltreatment at age 10. For this analysis, Box’s M test suggested a violation of the homogeneity of variance-covariance matrices \((\text{Box’s } M = 60.28, \ F = 2.04, \ p = .001)\). Tabachnick and Fidell (2007) warn that Box’s M can be too strict and should not be considered a serious threat to statistical testing; nonetheless, they suggest using Pillai’s trace, rather than Wilks’ lambda, to determine multivariate test significance because of its robustness. Levene’s test of equality of error variances was non-significant for all dependent variables except for magnification of anger, \(F(1, 190) = 7.74, p < .01\). While MANCOVA analyses are quite robust to violations of this assumption (Tabachnick & Fidell, 2007), a conservative alpha of .01 was still used to determine significance for this variable (Tabachnick & Fidell, 2007).

Using Pillai’s trace, a statistically significant MANCOVA main effect was obtained, \(V = .15, F(7, 183) = 4.64, p < .001, \eta^2 = .15\), demonstrating differences in reported paternal emotion socialization across maltreatment groups. Examination of univariate effects revealed that the two groups did not differ in their reports of paternal override \(F(1,189) = 1.10, ns\),
magnification of sadness ($F(1,189) = .09, ns$), or magnification of fear ($F(1,189) = 2.50, ns$). They did, however, differ in their report of paternal reward ($F(1,189) = 7.72, p < .01$), neglect ($F(1,189) = 7.08, p < .01$), punish ($F(1,189) = 8.05, p < .01$), and magnification of anger ($F(1,189) = 24.15, p < .001$). Specifically, participants who indicated that their father was physically abusive were also more likely to report that their father used fewer reward strategies, and more neglect, punish, and magnification of anger strategies in comparison to participants who did not report a history of paternal maltreatment. See Table 2 for a summary of results.

Table 2

**Study 1 Differences in Emotion Socialization in Maltreating and Non-Maltreating Fathers**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Paternal Maltreatment ($n = 51$)</th>
<th>No Maltreatment ($n = 141$)</th>
<th>$F(1,189)$</th>
<th>$\eta^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neglect</td>
<td>$M = 2.71, SD = .92$</td>
<td>$M = 2.32, SD = .83$</td>
<td>$7.08^{**}$</td>
<td>.04</td>
</tr>
<tr>
<td>Punish</td>
<td>$M = 2.56, SD = .67$</td>
<td>$M = 2.18, SD = .71$</td>
<td>$8.05^{**}$</td>
<td>.04</td>
</tr>
<tr>
<td>Reward</td>
<td>$M = 2.91, SD = 1.08$</td>
<td>$M = 3.41, SD = 1.03$</td>
<td>$7.72^{**}$</td>
<td>.04</td>
</tr>
<tr>
<td>Override</td>
<td>$M = 2.70, SD = .93$</td>
<td>$M = 2.88, SD = .82$</td>
<td>$1.10$</td>
<td>.01</td>
</tr>
<tr>
<td>Magnify Anger</td>
<td>$M = 2.68, SD = 1.17$</td>
<td>$M = 1.84, SD = .91$</td>
<td>$24.15^{***}$</td>
<td>.11</td>
</tr>
<tr>
<td>Magnify Sadness</td>
<td>$M = 1.55, SD = .68$</td>
<td>$M = 1.60, SD = .73$</td>
<td>$.09$</td>
<td>.00</td>
</tr>
<tr>
<td>Magnify Fear</td>
<td>$M = 1.38, SD = .53$</td>
<td>$M = 1.26, SD = .42$</td>
<td>$.250$</td>
<td>.01</td>
</tr>
</tbody>
</table>

*Note: Analyses included gender as a covariate. Overall MANCOVA (Pillai’s trace) $V = .15, F(7,183) = 4.64, p < .001$, $\eta^2 = .15$; $^{*}p < .05; ^{**}p < .01; ^{***}p < .001$*

**Mediation of association between paternal maltreatment and emotion regulation**

**Single mediation models.** Mediation was first explored within the context of separate, simple mediation models. Specifically, paternal maltreatment served as the independent variable and emotion dysregulation constituted the dependent variable in all models, while the mediator variable alternated depending on the paternal emotion.
socialization strategy in question (i.e., reward, override, neglect, punish, magnify anger, magnify sadness, and magnify fear). Participant gender was included as a covariate in all models in order to control for gender effects.

Table 3 presents the findings of the simple mediation models. Analyses demonstrated that paternal emotion socialization had a significant mediating effect on the relationship between paternal maltreatment and emotion dysregulation in four of the seven models. In other words, the confidence intervals for four of the indirect effects did not include zero, which demonstrates that the indirect effects were significant. While paternal maltreatment did not have an indirect effect on emotion dysregulation through the emotion socialization strategies of override, magnification of sadness, or magnification of fear, it did have significant indirect effects through reward, neglect, punish, and magnification of anger. An
examination of the estimates in each pathway indicates that paternal maltreatment led to decreased use of reward strategies, and increased use of neglect, punish, and magnification of anger strategies, all of which in turn led to increased emotion dysregulation. As a result of these findings, these four emotion socialization variables were utilized as the proposed mediators in the multiple mediation analyses to follow.

**Multiple mediation model.** Mediation analyses were next conducted for a multiple mediator model, whereby the four paternal emotion socialization strategies (reward, neglect, punish, and magnify anger) acted as simultaneous mediators. Figure 2 presents the proposed multiple mediation model with reward, neglect, punish, and magnification of anger together as mediators in the relationship between paternal maltreatment and emotion dysregulation, with gender as a covariate. The model presented with an \( R^2 = .130, F(6, 185) = 4.62, p < .001 \). Analyses demonstrated that the total effect of paternal maltreatment on emotion dysregulation was significant \((c = .204, p < .05)\), whereas the direct effect was non-significant \((c' = .077, ns)\). The four mediators had a significant total indirect effect on this relationship, with a point estimate of .128 and a 95% bias corrected confidence interval (CI) of .0517 to .2393. That is, the confidence interval for the indirect effects did not include zero, which implies that the total indirect effect was significant. The direction of the estimates of the \(a\) and \(b\) pathways was consistent with the interpretation that paternal maltreatment leads to less paternal use of supportive emotion socialization strategies (i.e., reward) and greater paternal use of non-supportive emotion socialization strategies (i.e., neglect, punish, magnify anger), which in turn leads to greater emotion dysregulation. An examination of the specific indirect effects indicated that only neglect (95% CI: .0198, .2540) and magnification of anger
(95% CI: .0071, .1789) had unique indirect effects when all four mediators were included in the model. In other words, reward (95% CI: -.1878, .0112) and punish (95% CI: -.0380, .0515) did not contribute to the indirect effect above and beyond that which was already accounted for by the emotion socialization strategies of neglect and magnification of anger.

The multiple mediation model had a significant indirect effect with a point estimate of .128 and a 95% bias corrected CI of .0517 to .2393. Unstandardized path coefficients are presented. The coefficient in parentheses represents the total relationship between variables. * $p < .05$; ** $p < .01$; *** $p < .001$

*Figure 2.* Study 1 Paternal Emotion Socialization Strategies as Multiple Mediators in the Relationship between Paternal Maltreatment and Emotion Dysregulation, with Gender as a Covariate.
**Controlling for maternal maltreatment.** A chi-squared analysis illustrated that, in contrast to participants who did not report any father-perpetrated physical abuse, participants who reported experiences of paternal maltreatment in childhood were more likely to report a concurrent history of maternal maltreatment, \( X^2(1, N=197) = 32.00, p < .001 \). As a result, the previously described multiple mediation model was re-explored while also controlling for the potential effects of maternal maltreatment, as shown in Figure 3.

The multiple mediation model had a significant total indirect effect with a point estimate of .137 and a 95% bias corrected CI of .0514 to .2513. Unstandardized path coefficients are presented. The coefficient in parentheses represents the total relationship between variables. *p < .05; **p < .01; ***p < .001

**Figure 3.** Study 1 Paternal Emotion Socialization Strategies as Multiple Mediators in the Relationship between Paternal Maltreatment and Emotion Dysregulation, with Gender and Maternal Maltreatment as Covariates.
When controlling for the effects of gender and maternal maltreatment, analyses suggest the total effect of paternal maltreatment on emotion dysregulation was non-significant ($c = .120, \text{ns}$), as was the direct effect ($c' = -.017, \text{ns}$). However, results also show an $R^2 = .157, F(7, 184) = 4.91, p < .001$ and suggest that the four mediators continue to have a significant total indirect effect, with a point estimate of .137 and a 95% bias corrected CI of .0514 to .2513. An examination of the specific indirect effects in this model shows that neglect (95% CI: .0015, .2413) and magnification of anger (95% CI: .0205, .2234) continued to have significant specific indirect effects on the relationship between paternal maltreatment and emotion dysregulation. Again, reward (95% CI: -.1990, .0060) and punish (95% CI: -.0402, .0547) did not significantly contribute to the total indirect effect above and beyond neglect and magnification of anger. Taken together, these results suggest that paternal emotion socialization strategies (reward, neglect, punish, and magnify anger) have a significant total indirect effect, with neglect and magnification of anger holding as significant specific indirect effects on the relationship between paternal maltreatment and emotion dysregulation, even when controlling for the effects of gender and maternal maltreatment.
Chapter Three: Study Two

Method

The research methodology for Study 2 was approved by the Research Ethics Board at the University of Toronto (REB # 24748; see Appendix 4); ethical approval was also provided by the Children’s Aid Society (CAS) of Toronto, the Children’s Aid Society (CAS) of London & Middlesex, and Vanier Children’s Services.

Participants. Thirty-one father-child dyads participated in the current study, with children ranging from 5-13 years of age. Specifically, 14 father-child dyads with a verified history of child maltreatment and 17 father-child dyads with no history of child maltreatment were recruited. Maltreatment dyads were accessed through the Children’s Aid Society (CAS) of Toronto, the Children’s Aid Society (CAS) of London & Middlesex, and the Caring Dads treatment program at Vanier Children’s Services. All maltreatment dyads had current or past involvement with CAS. Non-maltreatment dyads were recruited from communities within the Greater Toronto Area using flyers posted in community areas (e.g., Boys and Girls Club, YMCA) and advertisements in local newspapers. Efforts were made to match maltreatment and non-maltreatment groups on basic demographic factors such as age, race/ethnicity, and socio-economic status.

Procedure. To confirm maltreatment status, fathers’ involvement with child protection services was reviewed. During the first research contact, maltreatment dyad fathers were asked for their consent to collect child protective services information about any reports of child maltreatment. Subsequently, information about the type of maltreatment (i.e., physical, sexual), as well as whether reports were substantiated, suspected, or
unsubstantiated, was collected. Only men with substantiated cases of physical maltreatment were included within the maltreatment sample. Fathers with suspected or substantiated co-morbid sexual abuse perpetration were excluded from the current study due to potential differences in the characteristics of perpetrators of physical and sexual abuse. In cases where men were recruited through Vanier Children’s Services, CAS information was collected through their clinical file rather than from direct contact with CAS.

When recruiting non-maltreatment dyads, all flyers and newspaper advertisements explicitly stated that interested families must not have a history of child maltreatment. At the onset of research contact, fathers were asked if they had any current or past involvement with the CAS; only fathers who denied any history of involvement with child protective services and self-identified as a non-abusive parent were included in the non-maltreatment group. To further ensure that all dyads within this group were indeed non-maltreatment, the presence of any abusive parenting behaviours was also screened for, using the Parent-Child Conflict Tactics Scale (CTSPC; Straus et al., 1998). Using this measure, potential non-maltreatment fathers were asked to endorse the frequency with which they had engaged in a variety of behaviours towards their child within the last year, including behaviours classified as nonviolent discipline, psychological aggression, corporal punishment, and physical maltreatment. Responses indicating maltreatment were planned to be reviewed and reported to child protection authorities. However, such action was not necessary as none of the

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4 Since all maltreatment fathers had a substantiated history of child physical abuse perpetration with the CAS, it was not necessary to establish their status as abusive or non-abusive, and thus the CTSPC was not administered to maltreatment dyad fathers.
potential non-maltreatment fathers endorsed any behaviours that could be classified as abusive.

Written consents were obtained from fathers, as well as from children’s custodial caregivers (when the father was not a custodial caregiver), and assents were obtained from children. Given that families being monitored by child protection are under considerable pressure to comply and often feel (justifiably) threatened that failure to comply may lead to more intrusive child protection intervention, particular care was taken to ensure that these families did not feel undue pressure to consent to research. Specifically, fathers and children were informed about the research project while begin clearly informed that their decisions about participation would not affect their evaluation by, or progress with, child protection services in any way. Once father/caregiver consent and child assent was obtained, all father-child dyads (i.e., both maltreatment and non-maltreatment) were asked to complete a series of self-report questionnaires. Fathers and children completed their respective questionnaires in separate rooms to allow for privacy and comfort disclosing personal information. Next, fathers and children participated in a structured parent-child interaction task, which was videotaped for subsequent coding. In order to control for any potential experimenter effects, the current author conducted all interaction tasks.

All researchers involved in the current study were trained in recognizing and responding to any actual or perceived emotional distress exhibited by children and fathers. Moreover, researchers were prepared to interrupt any task that created unnecessary stress or discomfort and provide appropriate follow-up services. Finally, as an additional precaution, fathers and children were instructed to engage in a free-play activity of their choice, which
was observed and used to ensure that neither the father nor the child were visibly agitated before leaving the research appointment. In total, completion of the study protocol required approximately 1 hour. All fathers were compensated with $50 and all participating children were provided with a small gift (e.g., small toy, book, or gift certificate) in recognition of the time commitment required to complete study tasks and questionnaires.

**Measures: Father report**

**Demographic information.** All fathers completed question sets inquiring about demographic characteristics for themselves and their children (e.g., gender, age), as well as socioeconomic status (e.g., level of education, employment status, family household income), family characteristics (e.g., marital status), race/ethnicity (e.g., Asian, Caucasian/White, Hispanic, African-American) and country of origin.

**Physical maltreatment.** The Parent-Child Conflict Tactics Scale (CTSPC; Straus et al., 1998) was used to measure abusive parenting behaviours across five subscales, including non-violent discipline, psychological aggression, minor physical assault (corporal punishment), severe physical assault (physical abuse), and very severe physical assault (severe physical abuse). For each item, fathers were asked to endorse the frequency with which they used the behaviour within the last year. Responses were rated on an eight-point scale: never, not in the past year but [the item] has happened before, once, twice, 3-5 times, 6-10 times, 11-20 times, and more than 20 times. The current study used the CTSPC to confirm non-maltreatment status for all fathers in the control group (i.e., no endorsed

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5 For a discussion of the psychometric properties of the CTSPC, please see Study 1 Method.
behaviours within the psychological aggression and/or the physical assault subscales), with the understanding that any control group fathers who identified abusive behaviours would be eliminated from the study and reported to the CAS.

**Trait affect.** The Positive and Negative Affect Schedule – Extended (PANAS-X; Watson & Clark, 1994; Watson, Clark, & Tellegen, 1988) is a 60-item self-report measure that was administered to all fathers to assess the dominant dimensions of their emotional experience and affective traits. Using a 5-point Likert scale, ranging from (1) ‘very slightly or not at all’ to (5) ‘extremely,’ fathers were instructed to indicate the extent to which they had experienced various feeling/affective states over the past month. Items can be divided into general positive and negative affect dimensions, as well as 11 additional specific affect subscales (e.g., guilt, sadness). Watson et al. (1988) suggested that the two general dimension scales are the best measures of underlying higher order factors; as such, the current study used fathers’ scores on the positive and negative affect general dimension scales to ascertain overall paternal positivity and negativity. High scores on the positive affect scale suggest that an individual is experiencing feelings of cheerfulness, confidence, and pleasurable engagement; in contrast, the dimension of negative affect reflects the degree to which one is experiencing acute or aversive emotional states, such as anger, fear, and disgust (Watson et al., 1988).

With regard to the validity of the PANAS-X in distinguishing trait affect, Watson (2000) and Watson and Clark (1994) demonstrated that the instrument is stable over time, shows significant convergent and discriminant validity, and correlates strongly with other measures of affective constructs. Previous research has also demonstrated high internal
consistency scores for both of the general dimension scales (Watson & Clark, 1994). The correlation between positive and negative affect has generally been found to be low, indicating quasi-independence between the scales (Watson et al., 1988), and test-retest reliability appears to be stable (Watson & Clark, 1994). In the current sample, the PANAS-X again showed high internal consistency, with positive and negative affect scales both independently revealing a Cronbach’s alpha of .88.

**Emotion regulation.** The Emotion Regulation Checklist (ERC; Shields & Cicchetti, 1997) was administered to all fathers in order to obtain their perceptions of their children’s emotion regulation skills. The scale includes 24 items, each requiring parents to rate their child’s typical methods of managing emotional experiences on a four-point Likert scale, ranging from (1) ‘rarely/never’ to (4) ‘always’. The measure divides items to provide two subscales: lability/negativity (inflexibility, lability, dysregulated negative affect) and emotion regulation (appropriate emotional expression, empathy, and emotional self-awareness). The lability/negativity subscale contains 15 items that indicate the child’s propensity to become distressed (e.g., “Exhibits wide mood swings,” “Is easily frustrated.”). The emotion regulation subscale contains 8 items that measure the child’s ability to regulate emotional reactivity in different situations (e.g., “Displays appropriate negative affect in response to hostile, aggressive or intrusive play,” “Is a cheerful child.”). Finally, a total composite score can be calculated by reverse scoring the items on the lability/negativity subscale and adding all of the checklist items together.

Previous research shows the ERC to have good psychometric properties. Shields and Cicchetti (1997) demonstrated good reliability, with high internal consistency coefficients for
the overall scale and the two subscales. Validity has been established through positive correlations with observers’ ratings of children’s regulatory abilities. Discriminant validity demonstrates that the ERC can be reliably differentiated from other emotion-related constructs (Shields & Cicchetti, 1997). For the current study, the total composite scale was used as a marker of emotion regulation in all applicable analyses; the internal consistency for this scale was excellent, with a Cronbach’s alpha = .92.

**Emotion socialization.** Father report of emotion socialization was assessed using the original parent version of the Emotions as a Child Scale (EAC; Magai, 1996). In completing this questionnaire, fathers were asked to recall how typical it was for them to use various emotion socialization behaviours in response to their child’s negative emotions. Paternal responses were assessed across ratings of 15 items (for each of sadness, anger, and fear); each of these items corresponded with one of five emotion socialization strategies. Fathers were asked to rate how typical each response was on a five-point Likert-type scale ranging from (1) ‘never’ to (5) ‘very often’. The five emotion socialization strategies assessed include: reward, punish, override, neglect and magnification.6 For this sample, internal consistency using Cronbach’s alpha for individual emotion-specific subscales varied from unacceptable to excellent (ranging from .25 to .93 for each subscale). Cronbach’s alphas revealed that total emotion socialization scales (i.e., collapsed across emotions) were more internally consistent, although reliability was lower for the magnification scale (reward = .91, override = .89, neglect = .88, punish = .77, magnify = .58). This pattern of findings is

6 Please see Study 1 Methods for a description of each subscale and a discussion of the psychometric properties of the EAC scales.
consistent with the psychometric properties observed in Study 1. As such, total emotion socialization scales were utilized for reward, neglect, override, and punish, while keeping magnification scales emotion-specific. The magnification of fear scale was eliminated from analyses due to low internal consistency. See Appendices 5 and 6 for intercorrelations across emotion socialization subscales and all Cronbach’s alphas.

Measures: Child report

Emotion regulation. The Children’s Emotion Management Scales: Anger, Sadness, Worry Scales (CEMS; Zeman, Shipman, & Penza-Clyve, 2001; Zeman, Cassano, Suveg, & Shipman, 2010) were administered to all child participants to assess the ways in which they regulate sadness, anger, and worry. Child participants were asked to indicate the frequency with which they engage in a variety of emotion management strategies using a three-point Likert-type scale of (1) ‘hardly ever’, (2) ‘sometimes’, or (3) ‘often’. Items are divided into three subscales for each emotion: inhibition, which assesses masking or suppression of emotional expression (e.g., “I get mad inside but I don’t show it”); dysregulated expression, which measures culturally inappropriate expression of negative emotions (e.g., “I cry and carry on when I am sad”); and coping, which examines children’s capacity to regulate their negative emotions through constructive control over emotional behaviours (e.g., “When I feel worried I do something totally different until I calm down”).

Past research supports the three-factor structure for the CEMS (Zeman et al., 2001; Zeman et al., 2010). In addition, examination of the psychometric properties of the individual anger, sadness, and worry scales generally indicate acceptable internal consistency scores and test-retest reliability scores; the scales have also been shown to demonstrate
convergent and discriminant validity (Zeman et al., 2001; Zeman et al., 2010). More specifically, the CEMS has been shown to be significantly correlated with other measures of emotion dysregulation, as well as measures of mood lability and culturally inappropriate affective displays, impoverished emotional awareness, and internalizing symptoms of anxiety and depression (Zeman et al., 2001). For the present study, coefficient alphas were .73, .66, and .84 for inhibition; .49, .44, and .62 for dysregulated expression; and .68, .80, and .68 for coping across anger, sadness, and worry subscales, respectively. As some of the emotion-specific coefficients were unacceptably low, global scales were computed across emotions and used in all analyses. Internal consistency values for these global subscales were .80, .60, and .87 for inhibition, dysregulated expression, and coping, respectively.

**Emotion socialization.** Children’s perspectives of paternal emotion socialization were assessed using a parallel child version of the EAC rating scales (Magai, 1996). In completing the questionnaire, children were asked to indicate how their father responded to their sadness, anger, and fear. As with the father report EAC, children were asked to rate how typical each response was on a five-point Likert-type scale in order to assess the emotion socialization strategies of reward, punish, override, neglect and magnification. For this child sample, internal consistency using Cronbach’s alpha for individual emotion-specific subscales varied from unacceptable to good (ranging from .39 to .86 for each subscale). Similar to the father report, Cronbach’s alphas revealed that total emotion socialization scales (i.e., collapsed across emotions) were more internally consistent for all scales except magnification (reward = .95, override = .88, neglect = .84, punish = .84, magnify = .57). Once again, total emotion socialization scales were utilized for reward,
neglect, override, and punish, while keeping magnification of anger and sadness separate (magnify fear was excluded to be consistent with father report EAC variables). See Appendices 7 and 8 for intercorrelations and Cronbach’s alphas.

**Measures: Observation**

**Emotion socialization.** The Parent-Child Emotion Interaction Task (PCEIT; Shipman & Zeman, 1999) was also included in this study as an observational measure of paternal emotion socialization. After a brief rapport-building period with fathers and their children, children were asked to ‘talk with your father about a time that you felt ___ (angry, sad, fearful; presented in random order)’ and fathers were told to respond as they would on a typical day. The dyads were asked to talk about each situation for at least one minute and no more than 5 minutes for each of the three emotions.

All PCEIT interaction tasks were videotaped and coded for fathers’ validating and invalidating responses using a modified version of the Parent-Child Validation/Invalidation Coding System (Schneider & Fruzzetti, 2002). This coding system measures validation and invalidation of children’s emotion. Validating behaviours are reflective of emotional acceptance and support, including demonstrations of interest in a child’s emotions, clarification of a child’s emotional experience, and behaviours such as reflection and acceptance, effective problem solving advice, normalization, and empathy. Invalidating behaviours include not responding to a child’s disclosure, as well as minimizing or dismissing a child’s emotions, blaming or criticizing a child for their emotional experience, punishing emotion disclosures, and poor problem-solving advice. The parent-child validation/invalidation coding system represents a global measure of validation and
invalidation that takes into account both the frequency and intensity of behaviour, as well as verbal and non-verbal (e.g., body posture, tone of voice) cues. It also takes into account the function of parent behaviours, and child verbal and nonverbal responses to the parent can be evidence for scoring choices. Past research supports the inter-rater reliability of this coding system (Schneider & Shipman, 2005, as cited in Shipman et al., 2007; Shenk & Fruzzetti, 2011; Shipman et al., 2007).

In the current study, two coders were trained to use the coding system to classify each father utterance and/or interaction as validating or invalidating. Utterances considered to be irrelevant to the emotion socialization task (e.g., child changes the subject and asks the father what they are having for dinner, to which he replies “pasta”) or uncodable (e.g., the coder was unable to hear what the father said) were classified as non-coded interactions. The primary coder, whose codes were used for final analyses, was unaware of group status and study hypotheses. Inter-rater agreement was calculated for 20% of all dyads, resulting in 339 code comparisons. A code was considered to be in agreement only if both observers coded the same utterance/interaction with the same emotion socialization code (i.e., validation, invalidation, or non-coded interaction). Based on these 339 cases, a percentage agreement rate of 92.9% (Cohen’s kappa = .87) was found, demonstrating sufficient interrater reliability and a very good level of agreement above chance (Fleiss, 1981).

Since there was a significant range in the number of utterances/interactions across dyads (range for anger interaction task: 4-56; range for sadness interaction task: 4-48; range for fear interaction task: 2-59), percentage-based observations were created by summing the total number of each domain code (i.e., validation, invalidation) and dividing by the total
number of observations for each interaction task. When conducting final analyses, total observation percentages across emotions were used (i.e., anger, sadness, and fear combined) in order to be consistent with father and child report of emotion socialization (i.e., EAC). This approach was supported by significant intercorrelations among emotion-specific subscales, as well as a Cronbach’s alpha of .81 for the validation scale and .91 for the invalidation scale.

**Data analysis strategy.** SEM analyses were not attempted due to sample size constraints\(^7\) and a desire to maintain consistency between Study 1 and Study 2. As such, the data analysis strategy for the current study was very similar to that described for Study 1. Again, all data was examined using the Statistical Package for the Social Sciences (SPSS; Student Version 20.0 for Windows and Mac OS X). Preliminary analyses were performed to describe and determine adequacy of the data for the proposed analyses. Scales were scored according to the scoring directions and Cronbach’s alpha coefficients were used to determine the internal consistency of each scale in this sample. Next, descriptive statistics (i.e., mean, skew, kurtosis, etc.) were calculated for the study variables, including: father reported emotion regulation (i.e., ERC total scale), reward (i.e., EAC reward scale), neglect (i.e., EAC neglect scale), punish (i.e., EAC punish scale), override (i.e., EAC override scale), magnification of anger (i.e., EAC magnify anger scale), magnification of sadness (i.e., EAC magnify sadness scale), general positive affect (i.e., PANAS-X positive affect), and general

\(^{7}\) According to Loehlin (1992) and Hoyle (1995), the sample size for SEM should be at least 100 to 200 due to the fact that SEM relies on tests that are sensitive to the number of cases. Since the sample size for the current study was significantly less than the minimum threshold, bootstrapped mediation was used instead of SEM.
negative affect (i.e., PANAS-X negative affect); child reported inhibition (i.e., CEMS inhibition scale), dysregulated expression (i.e., CEMS dysregulated expression scale), coping (i.e., CEMS coping scale), reward (i.e., EAC reward scale), neglect (i.e., EAC neglect scale), punish (i.e., EAC punish scale), override (i.e., EAC override scale), magnification of anger (i.e., EAC magnify anger scale) and magnification of sadness (i.e., EAC magnify sadness scale); and observation of validation and invalidation (PCEIT scales). T-tests and chi-square statistics were used for continuous and categorical variables, respectively, to determine any significant demographic differences between the maltreatment and non-maltreatment groups.

In light of the multi-method measurement of emotion socialization (observation, father report, child report) and emotion regulation (father report, child report), the second stage of data analysis involved an examination of bivariate correlations between these variables. These analyses were completed to determine whether the different measurement modalities were representing similar underlying constructs. Subsequently, multivariate analyses of variance (MANOVAs) were performed to determine whether statistically significant relationships exist between (1) paternal maltreatment and child emotion regulation and (2) paternal maltreatment and paternal emotion socialization. A 95% confidence interval was used to determine statistical significance ($p < .05$) and null hypotheses were accepted whenever the $p$-values did not satisfy this criterion.

Next, two corresponding sets of mediation analyses were conducted (based on a father report model and a child report model), which investigated the role of paternal emotion socialization in the relationship between child maltreatment and emotion regulation. As with Study 1, a bootstrapping procedure was employed (5,000 bootstraps) and indicated a
significant indirect effect when the 95% bias-corrected confidence interval around the unstandardized coefficient did not include zero (Preacher & Hayes, 2004). Separate mediation models were first examined for each potential mediator variable before a multiple mediation model was computed to simultaneously assess the effects of multiple paternal emotion socialization strategies in the relationship between paternal maltreatment and emotion dysregulation. Subsequently, $t$-tests were computed to examine the relationship between maltreatment status and paternal negative trait affect; follow-up mediation analyses were then completed to control for potential confounding effects of trait negativity. Finally, two multi-informant and/or measurement models were examined in order to address concerns about shared-informant bias. As discussed in Study 1, bootstrapped mediation analyses minimize the problem of a non-normal and non-symmetric distribution of the indirect effect that is common with small samples and that results in diminished statistical power, and thus are an appropriate choice for the current study.

**Results**

Analyses begin with data screening and exploration, an examination of the descriptive statistics across the current sample, and a discussion of similarities and differences between the maltreatment and non-maltreatment groups. Examinations of correlations across multi-method measures of emotion socialization and emotion regulation are presented next, followed by MANOVA analyses to determine the independent relationships between maltreatment, emotion socialization, and emotion regulation. The second stage of analyses involve a series of single mediation models, used to guide subsequent multiple mediator
analyses, examining the role of paternal emotion socialization in the relationship between father-perpetrated maltreatment and child emotion regulation.

**Data exploration.** Data exploration began by examining the assumptions of normality and ensuring the absence of outliers. Given that the main study analyses involve comparisons of the maltreatment and non-maltreatment groups, the two distributions were examined separately. Although no variables contained any univariate outliers, an exploration of distributions revealed that two variables displayed significant skew and/or kurtosis, violating the assumption of normality. These variables were father reported magnification of anger (maltreatment skew = 1.13, maltreatment kurtosis = -.57; non-maltreatment skew = 3.89, non-maltreatment kurtosis = 4.59) and observed PCEIT invalidation (maltreatment skew = .33, maltreatment kurtosis = -1.07; non-maltreatment skew = 4.44, non-maltreatment kurtosis = 7.04). Both variables were transformed (natural log) and analyses were run with and without these variables transformed. No notable differences in results were observed; as such, the non-transformed variables were used in all analyses for ease of interpretation.

**Preliminary analyses.** Data collected from 31 father-child dyads (maltreatment group, \( N = 14 \); non-maltreatment group, \( N = 17 \)) were included in all analyses. Overall, fathers had a mean age of 41.84 years (SD = 7.40, range 28-61), children had a mean age of 9.26 years (SD = 2.45, range 5-13), and nearly two-thirds of the children participating in the study were male (61.3%, \( n = 19 \)). One-quarter of the sample did not report any cultural affiliation (25.8%, \( n = 8 \)), 45.2% (\( n = 14 \)) identified as Canadian/European (e.g., Irish, English), and 29.0% (\( n = 9 \)) as non-European (e.g., South Asian, African Canadian). The
majority of fathers had completed some post-secondary education (87.1%, n = 27), 67.7% worked full time (n = 21), and 83.3% (n = 25) had an annual family income of $30,000 or more. Efforts were made to match the clinical (i.e., maltreatment) and control (i.e., non-maltreatment) groups on as many basic demographic variables as possible, as demonstrated by the similarities found across group comparisons in Table 4. Both groups showed similarities across participant age (father and child), child gender, cultural group, fathers’ education, fathers’ employment, and annual income.

Table 4

*Study 2 Demographic Information and Group Comparisons*

<table>
<thead>
<tr>
<th>Variable</th>
<th>No Paternal Maltreatment</th>
<th>Paternal Maltreatment</th>
<th>Statistic (t, $X^2$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Father Age (years), $M (SD)$</td>
<td>41.82 (8.69)</td>
<td>41.86 (5.79)</td>
<td>t(29) = -.01</td>
</tr>
<tr>
<td>Child Age (years), $M (SD)$</td>
<td>8.94 (2.68)</td>
<td>9.64 (2.17)</td>
<td>t(29) = -.79</td>
</tr>
<tr>
<td>Gender, n (%)</td>
<td></td>
<td></td>
<td>$X^2(1, N=31) = 3.21$</td>
</tr>
<tr>
<td>Male</td>
<td>8 (47.1)</td>
<td>11 (78.6)</td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>9 (52.9)</td>
<td>3 (21.4)</td>
<td></td>
</tr>
<tr>
<td>Cultural Group, n (%)</td>
<td></td>
<td></td>
<td>$X^2(2, N=31) = 4.82$</td>
</tr>
<tr>
<td>None</td>
<td>2 (11.8)</td>
<td>6 (42.9)</td>
<td></td>
</tr>
<tr>
<td>Canadian/European</td>
<td>8 (47.1)</td>
<td>6 (42.9)</td>
<td></td>
</tr>
<tr>
<td>Non-European</td>
<td>7 (41.2)</td>
<td>2 (14.3)</td>
<td></td>
</tr>
<tr>
<td>Fathers’ Education, n (%)</td>
<td></td>
<td></td>
<td>$X^2(1, N=31) = .04$</td>
</tr>
<tr>
<td>High School or less</td>
<td>2 (11.8)</td>
<td>2 (14.3)</td>
<td></td>
</tr>
<tr>
<td>Some Post Secondary</td>
<td>15 (88.2)</td>
<td>12 (85.7)</td>
<td></td>
</tr>
<tr>
<td>Fathers’ Employment, n (%)</td>
<td></td>
<td></td>
<td>$X^2(2, N=31) = 1.82$</td>
</tr>
<tr>
<td>Full time paid work</td>
<td>12 (70.6)</td>
<td>9 (64.3)</td>
<td></td>
</tr>
<tr>
<td>Part time paid work</td>
<td>4 (23.5)</td>
<td>2 (14.3)</td>
<td></td>
</tr>
<tr>
<td>Unemployed/Other</td>
<td>1 (5.9)</td>
<td>3 (21.4)</td>
<td></td>
</tr>
<tr>
<td>Family Income Level, n (%)</td>
<td></td>
<td></td>
<td>$X^2(1, N=30) = 2.68$</td>
</tr>
<tr>
<td>$0-$29,999</td>
<td>1 (6.3)</td>
<td>4 (28.6)</td>
<td></td>
</tr>
<tr>
<td>$30,000 or more</td>
<td>15 (93.7)</td>
<td>10 (71.4)</td>
<td></td>
</tr>
</tbody>
</table>

*Note:* *p < .05; **p < .01; ***p < .001
In line with group inclusion criteria, all maltreatment fathers had a history of involvement with CAS (100%, n = 14), whereas no control group fathers had associations with any child protection services (0%, n = 0). Over half of the maltreatment fathers (57.1%, n = 8) and none of the control group fathers (0%, n = 0) had a history of past arrests for assault crimes. In addition, more than one third of the maltreatment fathers (35.7%, n = 5) had attended Partner Assault Response (PAR) programs for domestic violence in comparison to the non-maltreatment fathers, who had never attended PAR programs (0%, n = 0). Given that these findings represented expected group differences, they were not controlled for in subsequent analyses.

Table 5

Study 2 Intercorrelations Across Emotion Regulation Measures

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Father Report</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emotion Regulation Total</td>
<td>--</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Child Report</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coping</td>
<td>.40</td>
<td>---</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dysregulated Expression</td>
<td>-.44</td>
<td>-.25</td>
<td>---</td>
<td></td>
</tr>
<tr>
<td>Inhibition</td>
<td>-.21</td>
<td>.24</td>
<td>.14</td>
<td>---</td>
</tr>
</tbody>
</table>

Note: Correlations greater than or equal to ± .36 are significant at p < .05 (2-tailed), greater than or equal to ± .46 are significant at p < .01 (2-tailed), and greater than or equal to ± .57 are significant at p < .001 (2-tailed)

**Emotion regulation in maltreated and non-maltreated children.** Given that the current study included father and child reports of children’s emotion regulation (i.e., ERC and CEMS scales), analyses of this construct began by computing bivariate correlations of these variables to examine their associations (see Table 5, above). Results demonstrated that father-reported emotion regulation was significantly correlated with child-reported
dysregulated expression \((r = -0.44, p < 0.05)\) and coping \((r = 0.40, p < 0.05)\). In contrast, child-reported inhibition was not associated with father-reported emotion regulation \((r = -0.21, ns)\).

Next, a one-way multivariate analysis of variance (MANOVA) was conducted to test the hypothesis that there would be mean differences between maltreatment status and emotion regulation scores. For this analysis, Box’s M test was not significant, providing evidence that the assumption of homogeneity of variance had not been violated. Levene’s test of equality of error variances was non-significant for all dependent variables except father-reported emotion regulation, \(F(1, 29) = 12.55, p = .001\). While MANOVA and ANOVA are quite robust to violations of this assumption (Tabachnick & Fidell, 2007), a conservative alpha of .01 was used to determine significance for this dependent variable (Tabachnick & Fidell, 2007).

Analyses demonstrated a statistically significant MANOVA main effect (using Pillai’s trace), \(V = .59, F(4, 26) = 9.50, p < .001, \eta^2 = .59\), demonstrating that children with and without a history of maltreatment experienced differences in their emotion regulation skills. Examination of univariate effects revealed that the two groups of children did not differ on child-reported inhibition \((F(1, 29) = .42, ns)\), but children with a maltreatment history reported significantly higher dysregulation expression \((F(1, 29) = 11.72, p < .01)\) and lower coping \((F(1, 29) = 8.91, p < .01)\) compared to children without a maltreatment history. Similarly, maltreated children were reported (by their fathers) as having significantly poorer overall emotion regulation \((F(1, 29) = 27.41, p < .001)\) in comparison to non-maltreated children (see Table 6). Thus, while children who had been maltreated by their fathers were not more likely to inhibit their emotions, they were more likely to have difficulties coping
with and regulating their emotions, with lower levels of overall emotion regulation, in comparison to children who had not experienced maltreatment.

Table 6

Study 2 Emotion Regulation of Maltreated and Non-Maltreated Children

<table>
<thead>
<tr>
<th>Variable</th>
<th>Paternal Maltreatment (n = 14)</th>
<th>No Maltreatment (n = 17)</th>
<th>F(1,28)</th>
<th>η²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Father Report</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emotion Regulation Total</td>
<td>2.76 (.46)</td>
<td>3.43 (.24)</td>
<td>27.41***</td>
<td>.49</td>
</tr>
<tr>
<td>Child Report</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coping</td>
<td>1.89 (.39)</td>
<td>2.34 (.45)</td>
<td>8.91**</td>
<td>.24</td>
</tr>
<tr>
<td>Dysregulated Expression</td>
<td>1.86 (.26)</td>
<td>1.48 (.33)</td>
<td>11.72**</td>
<td>.29</td>
</tr>
<tr>
<td>Inhibition</td>
<td>2.05 (.44)</td>
<td>1.96 (.35)</td>
<td>.42</td>
<td>.01</td>
</tr>
</tbody>
</table>

Note: Overall MANOVA (Pillai’s trace) V = .59, F(4, 26) = 9.50, p < .001, η² = .59; * p < .05; ** p < .01; *** p < .001

**Paternal emotion socialization in maltreating and non-maltreating families.** The current study is unique and adds to the current literature by utilizing a multi-measurement approach that includes both father and child report of paternal emotion socialization, as well as observation of fathers’ emotion socialization practices. As such, in examining paternal emotion socialization, a better understanding of this construct was first established by exploring observational findings, followed by father and child report findings.

**Coded observations.** As described in the Method section, observed emotion socialization behaviours were classified as validating or invalidating. Validation included supportive demonstrations of emotional acceptance by showing interest in a child’s emotional experience. For example, the father might echo back a child’s statement (or a sentiment expressed in the statement) or ask for more details about the situation that
prompted the child’s feelings. Validation also encapsulated supportive behaviours that are more emotion coaching in nature, such as providing empathy, normalizing or recontextualizing a child’s experience, and/or offering effective problem solving advice. Invalidating emotion socialization practices included behaviours such as neglecting or ignoring a child’s disclosure. For example, the father might not respond, become distracted, or change the subject. Invalidating behaviours also included more significant negative reactions to children’s emotions, such as minimizing a child’s emotional experience, criticizing and/or punishing a child for expressing their feelings, and increasing the negative valence of the situation by over-reacting or providing very poor problem-solving advice.

Several significant correlations were demonstrated between observational data and father and child report of emotion socialization (i.e., EAC; see Table 7). Directionality of correlations were as expected, in that observations of supportive emotion socialization behaviours (i.e., validation) were positively correlated with father and child report of supportive emotion socialization strategies and negatively correlated with non-supportive emotion socialization strategies. Similarly, observations of non-supportive emotion socialization behaviours (i.e., invalidation) were positively correlated with father and child report of non-supportive emotion socialization strategies. Specifically, validation was positively correlated with father- and child-reported reward (i.e., a supportive emotion socialization strategy; father-reported reward: $r = .54, p < .01$; child-reported reward: $r = .50, p < .01$) and negatively correlated with father and child report of neglect and magnification of anger (i.e., non-supportive socialization strategies; father-reported neglect: $r = -.49, p < .01$;
child-reported neglect: $r = -.70$, $p < .001$; father-reported magnify anger: $r = -.60$, $p < .001$; child-reported magnify anger: $r = -.48$, $p < .01$). Similarly, invalidation had significant positive correlations with reports of several non-supportive strategies (father-reported magnify anger: $r = .62$, $p < .001$; child-reported neglect: $r = .52$, $p < .01$; child-reported magnify anger: $r = .50$, $p < .01$). As such, correlation analyses suggest that observations of supportive emotion socialization strategies (i.e., validation) were associated with father and child report of supportive emotion socialization strategies, and observation of non-supportive emotion socialization strategies (i.e., invalidation) were related to father and child report of non-supportive emotion socialization strategies. These findings lend tentative support to the
assumption that observational and questionnaire data were assessing similar underlying constructs.

Next, to find the frequency with which fathers were observed to engage in various emotion socialization approaches, simple descriptive statistics were examined. Overall, fathers engaged in validation ($M = 63.73$, $SD = 21.51$) more frequently than invalidation ($M = 17.78$, $SD = 19.63$). Given the high intercorrelation between the two observation scales (see Table 7), a MANOVA was performed to test significant differences in observed paternal emotion socialization practices amongst maltreatment and non-maltreatment fathers. For this analysis, Box’s M test suggested a violation of the homogeneity of variance-covariance matrices (Box’s $M = 12.22$, $F = 3.76$, $p < .05$). Tabachnick and Fidell (2007) warn that Box’s M can be too strict and thus should not be considered a serious threat to statistical testing; in addition, the equal cell size of the current sample decreases the chance of committing a Type I error. Nonetheless, Pillai’s trace was utilized, rather than Wilks’ lambda, to determine multivariate test significance because of its robustness (Tabachnick & Fidell, 2007). Levene’s test of equality of error variances was significant for invalidation ($F_1(1, 28) = 13.83$, $p < .01$); as such, a conservative alpha of .01 was used to determine significance for this dependent variable (Tabachnick & Fidell, 2007).

Using Pillai’s trace, a statistically significant MANOVA main effect was obtained, $V = .63$, $F(2, 27) = 23.11$, $p < .001$, $\eta^2 = .63$, demonstrating that maltreating and non-
maltreating fathers exhibited differences in their observed emotion socialization strategies. Examination of univariate effects demonstrated that the two groups of fathers differed significantly in both domains; maltreatment fathers were significantly less likely to use validation ($F(1,28) = 47.91, p < .001$) and significantly more likely to use invalidation ($F(1,28) = 19.20, p < .001$) than non-maltreatment fathers (see Table 8). Thus, maltreatment fathers were more likely to use non-supportive emotion socialization practices, while non-maltreatment fathers were more likely to use supportive emotion socialization practices.

**Father and child report.** In examining father and child reports of paternal emotion socialization, bivariate correlations were first computed to identify relationships across the various measurement modalities (see Table 7, above). A comparison of these associations demonstrated that father and child reports of paternal neglect ($r = .40, p < .05$), father and child reports of reward ($r = .64, p < .001$), and father and child reports of magnification of anger ($r = .39, p < .05$) were significantly correlated. None of the remaining constructs (punish, override, magnify sadness) demonstrated significant associations across father and child reports.

Given that many of the emotion socialization scales were correlated and assessed related constructs, a single MANOVA was used. The Box’s M test was non-significant (Box’s $M = 168.12, F = 1.15, ns$) and Levene’s test of equality of error variances was non-significant for most dependent variables. Levene’s test was significant, however, for father-reported magnification of anger ($F(1, 29) = 8.19, p < .01$) and child-reported reward ($F(1, 29) = 6.48, p < .05$); again, this was managed by using a conservative alpha of .01 to determine significance for these two dependent variables (Tabachnick & Fidell, 2007).
Overall, MANOVA results demonstrated a statistically significant group main effect, Pillai’s trace $V = .71$, $F(12,18) = 3.65$, $p < .01$, $\eta^2 = .71$. Univariate tests indicated that maltreatment fathers reported higher levels of neglect ($F(1,29) = 6.31$, $p < .05$) and anger magnification ($F(1,29) = 18.05$, $p < .001$), with lower levels of reward ($F(1,29) = 11.08$, $p < .01$), compared to non-maltreatment fathers. Similarly, children who had been maltreated...
reported that their fathers were more likely to use neglect \((F(1,29) = 24.07, p < .001)\) and anger magnifying strategies \((F(1,29) = 5.28, p < .05)\), and were less likely to use reward strategies \((F(1,29) = 16.83, p < .001)\) than children who had no history of maltreatment. All other relationships were non-significant (see Table 8).

Taken as a whole, these results suggest there was no difference in the use of punish, override, or magnification of sadness strategies between maltreating and non-maltreating fathers. However, maltreating fathers were consistently shown to be more likely to use the emotion socialization strategies of neglect and magnification of anger, and less likely to use reward, compared to non-maltreating fathers.

**Mediation of association between paternal maltreatment and emotion regulation**

*Single mediation models.* A series of single mediation models was examined in order to determine whether differences in father-reported emotion socialization could help explain the association between maltreatment and father-reported emotion regulation. Specifically, father-reported reward, override, neglect, punish, magnification of anger, and magnification of sadness were tested in six separate, simple mediation models. Results indicated significant indirect effects for the emotion socialization strategies of reward, neglect, and magnification of anger (see Table 9). In each of these three cases, an examination of the estimates in the \(a\) and \(b\) pathways indicated that paternal maltreatment led to decreased use of reward strategies, and increased use of neglect and magnification of anger strategies, which in turn led to decreased emotion regulation.
Simple mediation analyses were also computed for maltreatment and child-reported paternal emotion socialization and emotion regulation. Given that child-reported emotion regulation was captured across three domains (i.e., inhibition, dysregulated expression, and coping), three sets of child report simple mediation analyses were conducted to examine the mediating influence of child-reported reward, override, neglect, punish, magnification of anger, and magnification of sadness on each dependent variable (see Table 10). With respect to the dependent variable of child-reported inhibition, no significant mediations were identified. However, magnification of anger was found to have a significant indirect effect on the relationship between paternal maltreatment and emotion dysregulation, whereby maltreatment was related to increased paternal magnification of anger, which in turn led to children’s dysregulated expression of emotion (see Figure 4, below). In addition, reward and neglect demonstrated significant indirect effects on the relationship between paternal...
### Table 10

**Study 2 Indirect Effects of Paternal Emotion Socialization on the Relationship between Paternal Maltreatment (IV) and Emotion Regulation (DV) for Child Report**

**Dependent Variable: Inhibition**

<table>
<thead>
<tr>
<th>Mediator Variable</th>
<th>Effect of IV on DV w/out mediator (c-path)</th>
<th>Effect of IV on DV with mediator (c'-path)</th>
<th>Effect of interactions on mediator (a-path)</th>
<th>Effect of mediator on DV (b-path)</th>
<th>Bootstrap point estimate of indirect effect</th>
<th>95% bootstrap confidence interval for point estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neglect</td>
<td>.092 (.142)</td>
<td>.085 (.196)</td>
<td>1.149** (.234)</td>
<td>.006 (.115)</td>
<td>-.009 (.140)</td>
<td>[-.2959, .2585]</td>
</tr>
<tr>
<td>Punish</td>
<td>.092 (.142)</td>
<td>.093 (.144)</td>
<td>.043 (.277)</td>
<td>-.031 (.097)</td>
<td>.002 (.031)</td>
<td>[-.0895, .0476]</td>
</tr>
<tr>
<td>Reward</td>
<td>.092 (.142)</td>
<td>.291 (.171)</td>
<td>-1.401** (.341)</td>
<td>.142 (.074)</td>
<td>-.197 (.129)</td>
<td>[-.5158, .0054]</td>
</tr>
<tr>
<td>Override</td>
<td>.092 (.142)</td>
<td>.115 (.149)</td>
<td>-.476 (.328)</td>
<td>.049 (.081)</td>
<td>-.020 (.052)</td>
<td>[-.1949, .0423]</td>
</tr>
<tr>
<td>Magnify Anger</td>
<td>.092 (.142)</td>
<td>.046 (.156)</td>
<td>.973** (.424)</td>
<td>.047 (.063)</td>
<td>.032 (.073)</td>
<td>[.0746, .2052]</td>
</tr>
<tr>
<td>Magnify Sadness</td>
<td>.092 (.142)</td>
<td>.091 (.147)</td>
<td>-.353 (.360)</td>
<td>-.003 (.075)</td>
<td>.016 (.041)</td>
<td>[-.0820, .0796]</td>
</tr>
</tbody>
</table>

**Dependent Variable: Dysregulated Expression**

<table>
<thead>
<tr>
<th>Mediator Variable</th>
<th>Effect of IV on DV w/out mediator (c-path)</th>
<th>Effect of IV on DV with mediator (c'-path)</th>
<th>Effect of interactions on mediator (a-path)</th>
<th>Effect of mediator on DV (b-path)</th>
<th>Bootstrap point estimate of indirect effect</th>
<th>95% bootstrap confidence interval for point estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neglect</td>
<td>.374** (.109)</td>
<td>.502** (.146)</td>
<td>1.149** (.234)</td>
<td>-1.12 (.086)</td>
<td>-.131 (.096)</td>
<td>[-.3572, .0335]</td>
</tr>
<tr>
<td>Punish</td>
<td>.374** (.109)</td>
<td>.368** (.105)</td>
<td>.043 (.277)</td>
<td>.134 (.070)</td>
<td>.009 (.044)</td>
<td>[-.0630, .1267]</td>
</tr>
<tr>
<td>Reward</td>
<td>.374** (.109)</td>
<td>.446** (.138)</td>
<td>-1.401** (.341)</td>
<td>.052 (.060)</td>
<td>-.073 (.079)</td>
<td>[-.2576, .0623]</td>
</tr>
<tr>
<td>Override</td>
<td>.374** (.109)</td>
<td>.379** (.115)</td>
<td>-.476 (.328)</td>
<td>.012 (.063)</td>
<td>-.012 (.045)</td>
<td>[-.1368, .0580]</td>
</tr>
<tr>
<td><strong>Magnify Anger</strong></td>
<td>.374** (.109)</td>
<td>.286** (.113)</td>
<td>.973** (.424)</td>
<td>.090 (.046)</td>
<td>.081 (.054)</td>
<td>[.0090, .2325]</td>
</tr>
<tr>
<td>Magnify Sadness</td>
<td>.374** (.109)</td>
<td>.372** (.113)</td>
<td>-.353 (.360)</td>
<td>-.004 (.057)</td>
<td>.005 (.028)</td>
<td>[-.0454, .0768]</td>
</tr>
</tbody>
</table>

**Dependent Variable: Coping**

<table>
<thead>
<tr>
<th>Mediator Variable</th>
<th>Effect of IV on DV w/out mediator (c-path)</th>
<th>Effect of IV on DV with mediator (c'-path)</th>
<th>Effect of interactions on mediator (a-path)</th>
<th>Effect of mediator on DV (b-path)</th>
<th>Bootstrap point estimate of indirect effect</th>
<th>95% bootstrap confidence interval for point estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neglect</td>
<td>-.456** (.153)</td>
<td>-.102 (.186)</td>
<td>1.149** (.234)</td>
<td>-.308** (.109)</td>
<td>-.357 (.141)</td>
<td>[-.6882, -.1227]</td>
</tr>
<tr>
<td>Punish</td>
<td>-.456** (.153)</td>
<td>-.461** (.153)</td>
<td>.043 (.277)</td>
<td>.101 (.102)</td>
<td>.005 (.038)</td>
<td>[-.0523, .1169]</td>
</tr>
<tr>
<td><strong>Reward</strong></td>
<td>-.456** (.153)</td>
<td>-.215 (.180)</td>
<td>-1.401** (.341)</td>
<td>.173 (.078)</td>
<td>-.252 (.142)</td>
<td>[-.6091, -.0369]</td>
</tr>
<tr>
<td>Override</td>
<td>-.456** (.153)</td>
<td>-.371** (.149)</td>
<td>-.476 (.328)</td>
<td>.178 (.081)</td>
<td>-.079 (.071)</td>
<td>[-.2924, .0085]</td>
</tr>
<tr>
<td>Magnify Anger</td>
<td>-.456** (.153)</td>
<td>-.416** (.168)</td>
<td>.973** (.424)</td>
<td>-.041 (.068)</td>
<td>-.048 (.075)</td>
<td>[-.2514, .0640]</td>
</tr>
<tr>
<td>Magnify Sadness</td>
<td>-.456** (.153)</td>
<td>-.452** (.158)</td>
<td>-.353 (.360)</td>
<td>.012 (.080)</td>
<td>-.008 (.043)</td>
<td>[-.1196, .0662]</td>
</tr>
</tbody>
</table>

*Note.* Boldface type indicates a significant indirect effect. Bootstrap estimates are based on 5,000 resamples. Significance testing is not conducted on bootstrap point estimates; instead, a significant effect is indicated via a 95% confidence interval that does not include zero. Standard errors are listed in parentheses. Bias corrected confidence intervals are listed in brackets. $N = 31$.  *p < .05; ** p < .01; *** p < .001.
maltreatment and child coping. In both of these models, an examination of the estimates in the $a$ and $b$ pathways indicated that paternal maltreatment led to decreased use of reward strategies and increased use of neglect strategies, which in turn led to children’s decreased emotional coping.

**Multiple mediation models.** Where applicable, bootstrapped tests of simultaneous multiple indirect effects were conducted to determine the unique ability of each putative mediator to account for the effects of maltreatment on children’s emotion regulation. For the first two sets of analyses, all significant father-reported mediators between maltreatment and father-reported emotion regulation were combined into one model, and all significant child-reported mediators between maltreatment and child-reported coping were combined into a second model. In other words, the relationship between maltreatment and emotion regulation was examined to determine whether it was significantly mediated by (a) father-reported reward, neglect, and magnification of anger, and (b) child-reported reward and neglect. Results of both multiple mediation models, as well as the simple mediation model for child-reported magnification of anger, are presented in Figure 4.

First, Figure 4 includes the proposed multiple mediation model with father-reported reward, neglect, and magnification of anger together as mediators in the relationship between paternal maltreatment and father-reported emotion regulation. The model presented with an $R^2 = .684, F(4, 26) = 14.06, p < .001$. Analyses demonstrated that the total effect of paternal maltreatment on emotion regulation was significant ($c = -.669, p < .001$) and the direct effect had decreased significance ($c' = -.309, p < .05$). The three mediators had a significant total indirect effect on this relationship, with a point estimate of -.360 and a 95% bias corrected CI
of -.6461 to -.1376. The direction of the \( a \) and \( b \) paths were consistent with the interpretation that paternal maltreatment leads to less paternal use of supportive emotion socialization strategies (i.e., reward), which in turn leads to poorer emotion regulation. Similarly, paternal maltreatment leads to greater paternal use of non-supportive emotion socialization strategies (i.e., neglect, magnify anger), which also leads to difficulties with emotion regulation. An examination of the specific indirect effects indicated that reward (95% CI: -.5702, -.0248) was the only mediator that had a significant indirect effect on the relationship between paternal maltreatment and emotion regulation when all three mediators were included in the model. The non-supportive emotion socialization strategies of neglect (95% CI: -.0775, .3363) and magnification of anger (95% CI: -.4128, .0261) did not contribute to the indirect effect above and beyond that which was already accounted for by reward.

Figure 4 also presents the proposed multiple mediation model with child-reported reward and neglect together as mediators in the relationship between paternal maltreatment and child-reported coping. The model presented with an \( R^2 = .407 \), \( F(3, 27) = 6.19, p < .01 \). Analyses demonstrated that the total effect of paternal maltreatment on coping was significant (\( c = -.456, p < .01 \)) and the direct effect was non-significant (\( c' = -.098, \text{ ns} \)). The two mediators had a significant total indirect effect, with a point estimate of -.378 and a 95% bias corrected CI of -.6972 to -.0922. The direction of the \( a \) and \( b \) paths were again consistent with the interpretation that paternal maltreatment leads to less paternal use of supportive emotion socialization strategies (i.e., reward) and more paternal use of non-supportive emotion socialization strategies (i.e., neglect), which in turn leads to poorer emotional coping skills. An examination of the specific indirect effects indicates that only
A. **Father report model.** The multiple mediation model had a significant total indirect effect with a point estimate of -.360 and a 95% bias corrected CI of -.6461 to -.1376. Unstandardized path coefficients are presented. Coefficients in parentheses represent the total relationship between variables. *p < .05; **p < .01; ***p < .001.

B. **Child report models.** The single mediation model had a significant indirect effect with a point estimate of .081 and a 95% bias corrected CI of .0090 to .2325. The multiple mediation model had a significant total indirect effect with a point estimate of -.378 and a 95% bias corrected CI of -.6972 to -.0922. Unstandardized path coefficients are presented. Coefficients in parentheses represent the total relationship between variables. *p < .05; **p < .01; ***p < .001.

*Figure 4.* Study 2 Paternal Emotion Socialization Strategies as Multiple Mediators in the Relationship between Paternal Maltreatment and Emotion (Dys)regulation.
neglect (95% CI: -.7754, -.0306) had a significant indirect effect, with reward (95% CI: -.3967, .2704) not contributing uniquely to the indirect effect, when both mediators were included in the model.

**Controlling for negative trait affect.** When looking at general trait affect, analyses demonstrated that maltreatment ($M = 3.42, SD = .65$) and non-maltreatment ($M = 3.56, SD = .83$) fathers reported similar rates of positive affect, $F(1,26) = .23, ns$; however, maltreating fathers endorsed experiencing higher rates of negative affect ($M = 2.19, SD = .71$) than non-maltreating fathers ($M = 1.52, SD = .49$), $F(1,26) = 8.91, p < .01$. Given the potential confounding effects of negative trait affect on study analyses, the mediation models were re-explored while controlling for this variable, as shown in Figure 5.

When controlling for the effects of fathers’ negative trait affect, analyses suggested the total effect of paternal maltreatment on father-reported emotion regulation was significant ($c = -.491, p < .01$) and the direct effect was non-significant ($c’ = -.219, ns$). The model presented with an $R^2 = .614$, $F(5, 22) = 6.99, p < .001$ and demonstrated that the three mediators (reward, neglect, magnify anger) had a significant total indirect effect, with a point estimate of -.268 and a 95% bias corrected CI of -.7470 to -.0621. An examination of the specific indirect effects showed that magnification of anger (95% CI: -.4659, -.0198) had a specific indirect effect on the relationship between maltreatment and emotion regulation, but reward (95% CI: -.4312, .0357) and neglect did not (95% CI: -.1621, .1995; see Figure 5).

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9 In order to ensure that high correlations between neglect and reward ($r = -.80$; see Table 7) were not masking any specific indirect effects, follow up analyses were completed whereby anger magnify and neglect, and then anger magnify and reward, were examined in two separate multiple mediation models. These follow-up results confirmed that anger magnify was the only specific indirect effect (see Appendix 9).
A. Father report model. The multiple mediation model had a significant total indirect effect, with a point estimate of -.268 and a 95% bias corrected CI of -.7470 to -.0621. Unstandardized path coefficients are presented. Coefficients in parentheses represent the total relationship between variables. *p<.05; **p<.01; ***p<.001.

B. Child report models. The single mediation model had a significant indirect effect with a point estimate of .090 and a 95% bias corrected CI of .0012 to .3610. The multiple mediation model had a significant total indirect effect with a point estimate of -.418 and a 95% bias corrected CI of -.9636 to -.0885. Unstandardized path coefficients are presented. Coefficients in parentheses represent the total relationship between variables. *p<.05; **p<.01; ***p<.001.

Figure 5. Study 2 Paternal Emotion Socialization Strategies as Multiple Mediators in the Relationship between Paternal Maltreatment and Emotion (Dys)regulation, with Paternal Negative Trait Affect as a Covariate.
Figure 5 also illustrates the single mediation model outlining the relationship between paternal maltreatment and child-reported magnification of anger and dysregulated expression of emotion (after controlling for fathers’ trait negativity). When fathers’ negative trait affect was accounted for, the total effect of paternal maltreatment on child-reported dysregulated expression was significant ($c = .415$, $p < .01$) and the direct effect was slightly less significant ($c’ = .313$, $p < .05$). The model had an $R^2 = .384$, $F(3, 24) = 4.99$, $p < .01$ and magnification of anger continued to have a significant indirect effect (95% CI: .0012, .3610), with a point estimate of .090.

Finally, Figure 5 diagrams the multiple mediation model for child-reported neglect and reward, while controlling for fathers’ negative trait affect. In this model, the total effect of paternal maltreatment on child-reported coping approached significance ($c = -.362$, $p = .068$) and the direct effect was non-significant ($c’ = .063$, $ns$). The model presented with an $R^2 = .524$, $F(4, 23) = 6.32$, $p < .01$ and the two mediators (reward, neglect) continued to have a significant total indirect effect, with a point estimate of -.418 and a 95% bias corrected CI of -.9636 to -.0885. Despite the significant total indirect effect, an examination of the specific indirect effects of this model was not possible (i.e., both variables included confidence intervals that crossed 0). This is likely due to the high correlations found between the mediation variables ($r = -.85$; see Table 7). Preacher and Hayes (2008) warn that the effects of the mediators on Y (i.e., the $b$ paths) are often attenuated to the degree to which the mediators are correlated (as seen in Figures 4 and 5), a phenomenon that can compromise the significance of particular specific indirect effects. As such, although it is evident that the sum of the indirect effects of reward and neglect has a significant indirect effect on the
relationship between paternal maltreatment and child-reported emotion regulation, it is not possible to make conclusions about the unique individual effects after controlling for paternal negative trait affect.

**Multiple informant and measurement method models.** The mediation models presented thus far have relied exclusively on single informant reports of emotion socialization and emotion regulation (i.e., father report model, child report model). This design increases the likelihood of shared method invariance bias, which can overestimate the correlation between true scores as a result of correlated errors attributable to participants’ response sets (Fiske, 1982). In order to address this concern, two additional series of mediation analyses were completed utilizing multi-informant and/or measurement designs, as shown in Table 11.

The first set of multi-informant models examined whether differences in child-reported emotion socialization mediated the relationship between maltreatment status and father-reported emotion regulation (after controlling for fathers’ trait negativity). Specifically, child-reported reward, override, neglect, punish, magnification of anger, and magnification of sadness were each tested in simple mediation models. In addition to addressing shared informant bias, this design was selected to minimize vulnerability to social desirability bias (i.e., the tendency of participants to self-report in a manner that would be viewed favorably by others) by having children report on father variables and fathers report on child variables. Results revealed no significant indirect effects using this multi-informant design; although estimates of the \( a \) and \( b \) pathways demonstrated relationship trends in the expected directions (for all variables except child-reported punish), indirect effects were not strong enough to
meet significance thresholds (see Table 11). Given these findings, a multiple mediation analysis was not conducted.

Table 11

*Study 2 Indirect Effects of Paternal Emotion Socialization on the Relationship between Paternal Maltreatment (IV) and Emotion Regulation (DV) using Multiple Informants and Measurement Methods*

<table>
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<tbody>
<tr>
<td>Mediator Variable</td>
<td>Effect of IV on DV</td>
<td>Effect of Mediator on DV</td>
<td>Effect of Mediator on DV</td>
<td>Bootstrap estimate</td>
<td>95% bootstrap confidence</td>
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<td></td>
<td>(c-path)</td>
<td>(c’-path)</td>
<td>(a-path)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Neglect</td>
<td>-.491** (.141)</td>
<td>-.376 (.182)</td>
<td>1.228*** (.300)</td>
<td>-.094 (.094)</td>
<td>-.100 (.137) [-.4429, .0100]</td>
</tr>
<tr>
<td>Punish</td>
<td>-.491** (.141)</td>
<td>-.496** (.142)</td>
<td>.086 (.361)</td>
<td>.052 (.079)</td>
<td>.006 (.032) [-.0314, .1252]</td>
</tr>
<tr>
<td>Reward</td>
<td>-.491** (.141)</td>
<td>-.486 (.180)</td>
<td>-1.589*** (.417)</td>
<td>.003 (.069)</td>
<td>.021 (.138) [-.2878, .2567]</td>
</tr>
<tr>
<td>Override</td>
<td>-.491** (.141)</td>
<td>-.445** (.142)</td>
<td>-1.252 (.427)</td>
<td>.088 (.065)</td>
<td>-.044 (.052) [-.1897, .0221]</td>
</tr>
<tr>
<td>Magnify Anger</td>
<td>-.491** (.141)</td>
<td>-.387 (.147)</td>
<td>1.141** (.526)</td>
<td>-.091 (.051)</td>
<td>-.098 (.080) [-.3091, .0100]</td>
</tr>
<tr>
<td>Magnify Sadness</td>
<td>-.491** (.141)</td>
<td>-.480** (.145)</td>
<td>-.381 (.476)</td>
<td>.030 (.060)</td>
<td>-.008 (.034) [-.1216, .0280]</td>
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<tr>
<td>Mediator Variable</td>
<td>Effect of IV on DV</td>
<td>Effect of Mediator on DV</td>
<td>Effect of Mediator on DV</td>
<td>Bootstrap estimate</td>
<td>95% bootstrap confidence</td>
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<td>(c-path)</td>
<td>(c’-path)</td>
<td>(a-path)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Validation</td>
<td>-.487** (.142)</td>
<td>-.050 (.185)</td>
<td>-32.936*** (5.869)</td>
<td>.013** (.004)</td>
<td>-.417 (.140) [-.7281, -.1749]</td>
</tr>
<tr>
<td>Invalidation</td>
<td>-.487** (.142)</td>
<td>-.240 (.143)</td>
<td>17.730*** (5.676)</td>
<td>-.014** (.004)</td>
<td>-.270 (.160) [-.6010, -.0027]</td>
</tr>
</tbody>
</table>

*Note. Boldface type indicates a significant indirect effect. Analyses include paternal negative trait affect as a covariate. Bootstrap estimates are based on 5,000 resamples. Significance testing is not conducted on bootstrap point estimates; instead, a significant effect is indicated via a 95% confidence interval that does not include zero. Standard errors are listed in parentheses. Bias corrected confidence intervals are listed in brackets. N = 28.* | p < .05; **p < .01; ***p < .001 |

A second set of models, which included multiple measurement methods, explored the relationships among maltreatment, observation of emotion socialization (i.e., validation and invalidation), and father-reported emotion regulation (after controlling for fathers’ trait negativity). Results of simple mediation models revealed that both observed validation and observed invalidation had significant indirect effects on the relationship between maltreatment and father-reported emotion regulation (see Table 11). Specifically, findings
indicated that paternal maltreatment led to decreased validation and increased invalidation, which in turn led to decreased child emotion regulation. As such, a multiple mediation model was completed whereby the effects of these mediator variables were examined simultaneously (controlling for fathers’ trait negativity; see Figure 6).

**Multiple Measurement Methods Model.** The multiple mediation model had a significant total indirect effect with a point estimate of \(-.432\) and a 95% bias corrected CI of \(-.7029\) to \(-.1466\). Unstandardized path coefficients are presented. Coefficients in parentheses represent the total relationship between variables. \(^* p < .05; ^{**} p < .01; ^{***} p < .001\).

*Figure 6.* Study 2 Multiple Methods Mediation Model showing Emotion Socialization (Observed Validation and Invalidation) as Multiple Mediators in the Relationship between Paternal Maltreatment (CAS Report) and Emotion Regulation (Father Report), with Paternal Negative Trait Affect as a Covariate.

Findings demonstrated that the total effect of paternal maltreatment on child emotion regulation was significant \((c = -.487, p < .01)\) and the direct effect was non-significant \((c' = -.061, ns)\). The model was associated with an \(R^2 = .635\), \(F(4, 22) = 9.56, p < .001\) and the two mediators (validation, invalidation) had a significant indirect effect with a point estimate of \(-.432\) and a 95% bias corrected CI of \(-.7029\) to \(-.1466\). An examination of the specific indirect effects of this model was not possible as both variables included confidence intervals.
that crossed 0. As previously discussed, this is likely due to high correlations found between mediator variables ($r = -.80$; see Table 7).
Chapter Four: Discussion

The current dissertation addresses several limitations within the current literature, and focuses on a highly under-researched area of study. There is presently a paucity of information about potential mechanisms and processes through which child maltreatment affects children’s emotional development. In particular, few studies have examined the role of parental socialization of emotion as a prospective pathway through which the relationship between maltreatment and emotion dysregulation evolves. Furthermore, relatively little empirical attention has been given to men who abuse their children (Crooks et al., 2006; Dubowitz, 2006, 2009; Guterman & Lee, 2005; Haskett et al., 1996), with no known studies examining the emotion socialization practices utilized by maltreating fathers. Given the high prevalence of father-perpetrated abuse, this represents a critical oversight that prevents an adequate understanding of the processes through which maltreatment affects child development. Moreover, this lack of understanding thwarts efforts to develop effective and empirically grounded intervention services for maltreating fathers and their children, ultimately hindering efforts to prevent future maltreatment and ensure child welfare.

Given these problematic gaps within the empirical literature and the critical need for a better understanding of maltreating fathers, the present research was designed to explore potential underlying mechanisms through which father-perpetrated maltreatment impacts on child emotion regulation. Specifically, paternal socialization of emotion was examined in physically maltreating and non-maltreating families in accordance with the theoretical notion that children’s emotion-related interactions with their fathers may impact their development of emotion regulation skills (e.g., Eisenberg et al., 1998; Gottman et al., 1996, 1997). The primary objectives of this research were three-fold: (1) to look for a potential relationship
between paternal physical maltreatment and child emotion dysregulation; (2) to determine whether maltreating fathers were less likely to use supportive and more likely to use non-supportive emotion socialization practices in comparison to non-maltreating fathers; and (3) to explore the role of paternal emotion socialization practices as potential mediators in the relationship between physical maltreatment and child emotion dysregulation. These goals were each explored through two consecutive studies. The first study used retrospective reports of childhood physical maltreatment and parental socialization of emotion to predict present levels of emotion dysregulation within a normative community sample of young adults. The second study utilized a multi-method design to further examine these constructs within the context of father-child dyads, including one group with a confirmed history of father-perpetrated physical maltreatment and one without.

Overall, results of the current research highlight the importance of paternal socialization of emotion to the development of child emotion dysregulation in a maltreatment context. Results are similar across both studies. Consistent with the literature on child maltreatment, the first major research finding was that children who were physically maltreated by their fathers experienced greater emotion regulation difficulties than their non-maltreated peers. Second, as hypothesized, maltreating fathers employed fewer supportive and more non-supportive emotion socialization strategies in response to their children’s negative emotions (in at least some domains). Finally, across most analyses, paternal socialization of emotion was shown to mediate the relationship between maltreatment status and children’s emotion regulation difficulties. In other words, the negative effects of paternal maltreatment on child emotion regulation were found to at least partially occur.
through fathers’ use of maladaptive emotion socialization practices. These findings suggest that paternal emotion socialization is important to children’s emotional development, especially within the context of physical maltreatment.

Throughout this section of the dissertation, findings are discussed in detail across four main areas, including the rate of maltreatment within a community sample, emotion dysregulation in maltreated children, differences in emotion socialization practices utilized by maltreating and non-maltreating fathers, and the indirect effects of paternal emotion socialization. Finally, limitations of the current findings, directions for future research, and clinical implications are reviewed.

**Rates of Father-Perpetrated Child Maltreatment**

Two hundred undergraduate students took part in the normative sample study of the current research. An examination of the rates with which this sample recalled experiences of physical maltreatment demonstrated that 26.9% of the sample endorsed at least one occurrence of physical abuse by their fathers when they were 10 years old. Although no other known Canadian studies have specifically examined the prevalence of father-perpetrated maltreatment within a community context, the rates obtained in the current study are comparable to those reported in previous community-based samples examining physical maltreatment more generally (MacMillan et al., 1997; MacMillan et al., 2013; Walsh, MacMillan, & Jamieson, 2002). For instance, MacMillan and colleagues (1997) conducted a large-scale community survey of almost 10,000 Ontario residents and found that approximately one-quarter of respondents endorsed a history of childhood physical abuse. A similar, albeit slightly higher, prevalence rate was found in a more recent community-based
study, where 31% of the 1,893 young adults surveyed reported experiences of physical maltreatment at some point throughout their childhood (MacMillan et al., 2013).

Findings from this study also support previous research demonstrating an unequal gender distribution across victims of physical maltreatment. Specifically, the pattern of findings suggests that males were significantly more likely than females to report experiences of childhood physical abuse, with 38.2% of male participants and 19.5% of female participants indicating they had experienced at least one incident of physical maltreatment by their fathers. These results are consistent with other community samples, which have demonstrated prevalence rates ranging from 30-34% for males and 20-28% for females (MacMillan et al., 1997; MacMillan et al., 2013; Walsh et al., 2002), and a Canadian national incidence study (2003 CIS) that found boys were more often victims of reported physical abuse than girls (Trocmé et al., 2005).

These preliminary findings add to previous research demonstrating that childhood experiences of physical maltreatment are common occurrences within a Canadian context, especially for young boys. Moreover, they build on the current literature by verifying that father-perpetrated maltreatment is an extremely common phenomenon. As such, these results highlight the importance of addressing the current dissertation’s key research questions and developing a more in-depth understanding of the mechanisms through which father-perpetrated maltreatment confers risk to physically abused children, as discussed below. Given the consistent nature of both studies’ methodologies and research findings, results are generally discussed according to common themes and patterns observed across both the normative sample (Study 1) and clinical sample (Study 2) studies.
**Emotion Dysregulation in the Context of Maltreatment**

The first major goal of the current dissertation was to establish a significant relationship between childhood experiences of physical abuse and emotion dysregulation. Given the well-documented link between child maltreatment and poor social-emotional outcomes (e.g., Kolko, 2002; Springer et al., 2007), it was hypothesized that childhood maltreatment would be associated with children’s increased difficulties with affect regulation. Taken together, the results of the present research consistently confirm this hypothesis. In comparison to non-abusive fathers, maltreating fathers reported that their children had lower levels of overall emotion regulation. Furthermore, when examining specific aspects of emotion regulation, findings indicated that maltreated children reported fewer adaptive coping strategies and more difficulties with dysregulated expression of emotion than did their non-maltreated counterparts. Finally, young adults who recalled a history of childhood physical abuse also endorsed higher levels of emotion dysregulation (at the time of data collection) than did those who did not report maltreatment, suggesting that the emotion regulation difficulties associated with child maltreatment might persist into adulthood.

The only exception to these findings involved the child-reported inhibition subscale. Specifically, no significant differences were identified between physically abused and non-abused children on self-reports of emotional inhibition. This finding was unexpected, given prior research demonstrating a positive relationship between maltreatment and suppression of affect (Shields & Cicchetti, 1998; Shipman & Zeman, 2001). One possible explanation for this finding is that the measure of inhibition used did not sufficiently capture the construct it
sought to measure. For example, items such as “I get angry/sad/worried but don’t show it” could reflect positive regulatory processes in some children, rather than dysregulated ones. Indeed, it is possible that children with more sophisticated regulatory skills are better able to modulate their affect without engaging in outward displays of emotion. As such, it is possible that the inhibition subscale captured positive emotion regulation skills in some children and dysfunctional ones in others, suggesting poor construct validity. The non-significant correlations between inhibition and coping, dysregulated emotion, and overall emotion regulation lend support to this premise. In particular, father report of overall emotion regulation was associated with child report of adaptive coping strategies ($r = .40, p < .05$) and dysregulated emotional expression ($r = -.44, p < .05$) but not inhibition ($r = -.21, ns$), suggesting that children and fathers were reporting on associated processes across all domains except inhibition.

Alternatively, it is also possible that a lack of coping strategies and dysregulated emotional expression better describe the regulatory difficulties experienced by maltreated children and override any tendencies towards suppression of affect. Moreover, it is possible that maltreated children learn that they should suppress their negative emotions, but do not have the requisite skills to do so effectively in such an emotionally arousing environment. Indeed, it is possible that maltreated children attempt to inhibit their negative emotions but, with few adaptive coping strategies to manage this internalized affect, their suppressed emotions quickly escalate and result in dysregulated emotional displays. Future research should attempt to address the aforementioned measurement concerns in an effort to more accurately delineate the relationship between physical maltreatment and emotional inhibition.
Taken together, the findings of the current research are consistent with studies proposing that maltreated children lack constructive skills for managing emotional arousal (Shipman et al., 2004) and are at increased risk for difficulties characterized by emotion dysregulation (Kolko, 2002). Given that much extant work within this field has focused on maternal maltreatment (or has been non-specific about the nature of abuse experienced), the present research adds to the current literature by confirming these associations within the context of father-perpetrated maltreatment. As explored in the subsequent sections, it seems possible that maltreated children fail to develop the coping strategies commonly employed by non-maltreated children (e.g., seeking support from parents) because they have learned that these strategies are not an effective method for managing their negative feelings (Cole et al., 1994). It is also possible that maltreating fathers do not provide their children with the socialization and scaffolding (e.g., emotion coaching, teaching of emotion regulation skills) necessary to develop adaptive emotion management techniques. When faced with few strategies to help cope with an emotionally arousing maltreatment environment, maltreated children may ultimately demonstrate poorly modulated emotional expression and high levels of emotion dysregulation.

**Paternal Socialization of Emotion in the Context of Maltreatment**

Although it has been demonstrated that parental responses to children’s emotional displays have significant impacts on children’s regulatory development within normative samples, past research has rarely considered the role of emotion socialization within the context of maltreatment. As such, the second objective of the current research involved an empirical examination of the emotion socialization practices utilized by maltreating fathers.
As hypothesized, results demonstrated that maltreating fathers differed considerably from non-maltreating fathers in the approaches they used to socialize their children’s emotions. These differences can best be described according to: (1) the broad categories of supportive and non-supportive emotion socialization practices and (2) magnification of anger.

**Supportive and non-supportive emotion socialization.** Consistent with previous research, two main aspects of paternal emotion socialization were identified when examining fathers’ responses to children’s overall negative emotions: supportive and non-supportive. Supportive emotion socialization strategies were captured using the reward and override subscales of the EAC (adult recall, child report, father report), as well as validating statements and gestures noted through the PCEIT observational paradigm. Together, this domain included behaviours through which fathers encouraged and supported emotional expression by providing comfort, empathy, and problem-solving assistance. Non-supportive emotion socialization practices were measured using the neglect and punish subscales of the EAC (adult recall, child report, father report) and invalidating responses noted through PCEIT observations. Non-supportive emotion socialization practices included ways in which fathers discouraged emotional expression by showing disapproval, mocking or ignoring the child’s expression of emotion, or being unavailable. These supportive and non-supportive emotion socialization dimensions are closely aligned with the constructs of emotion coaching and emotion dismissing, as identified by Gottman et al. (1997).

In general, paternal socialization patterns were found to be quite consistent across all measurement sources (i.e., adult recall, child report, father report, observation). The first pattern noted was that maltreating fathers used fewer supportive emotion socialization
practices in response to their children’s disclosures of negative emotions than did non-maltreating fathers. This suggests that maltreating fathers are less likely to provide the emotional scaffolding necessary to help their children learn to manage emotional arousal in a constructive manner. Specifically, observation of father-child interactions demonstrated that, in comparison to their non-maltreatment counterparts, maltreating fathers were significantly less likely to validate their children’s expressions of negative emotions or use statements indicative of emotion coaching approaches. Further convergent evidence of this inverse relationship between paternal maltreatment and supportive emotion socialization was demonstrated through both father and child report, whereby maltreating fathers reported or were reported to use fewer reward strategies than non-maltreating fathers. No group differences were noted with respect to fathers’ use of override strategies.

The second pattern observed across studies indicated that maltreating fathers were significantly more likely than non-maltreating fathers to use non-supportive emotion socialization practices in response to their children’s negative emotions. In particular, maltreating fathers were more likely to ignore or neglect their children’s emotions and, according to adult recall, maltreating fathers were also more likely to punish (or threaten to punish) their children for displays of negative emotion. Similarly, coded observations demonstrated that maltreating fathers were significantly more likely to respond to their children’s negative emotions with invalidating and unsupportive feedback.

Although no other studies have specifically examined maltreating fathers’ use of emotion socialization practices, the patterns of findings described in the current dissertation are consistent with research conducted on maltreating mothers, which suggests that non-
maltreating mothers are more involved and supportive in responding to their children’s emotions than maltreating mothers. For instance, Shipman and Zeman (2001) revealed that maltreated children expect less maternal support for their displays of emotional expression. In addition, Shipman and colleagues (2007) indicated that maltreating mothers use less validation and emotion coaching and more invalidation in response to their children’s negative emotions.

Findings from the present research are also consistent with a small body of literature that suggests that maltreating fathers may lack the emotional understanding skills necessary to respond appropriately and supportively to their children’s disclosures of negative emotions. For instance, a recent study completed by Asla and colleagues (2011) found that fathers at high risk of child abuse showed more deficits in emotion recognition than low-risk fathers. Since emotional recognition is a prerequisite for the implementation of supportive emotion socialization practices, poor emotional awareness might help explain why maltreating fathers commonly ignore their children’s emotions. Research has also suggested that physically maltreating fathers have difficulty taking their child’s perspective and feel less affective and cognitive empathy for their child (Francis & Wolfe, 2008; Pérez-Albéniz & De Paúl, 2004). This is problematic, given that perspective taking and empathy are important variables in managing parent-child interactions (Saarni, 1999). In particular, empathic concern and an understanding of how a child may feel or interpret events helps to foster decreased negativity and greater flexibility when parents respond to their child’s emotions, which likely enables more supportive feedback. As such, when fathers are unable or unwilling to appreciate their child’s perspectives, emotions, and needs, their ability to
respond in a supportive manner may be compromised and their responses will likely remain focused on meeting their own needs, rather than meeting the needs of their child (Francis & Wolfe, 2008; Scott & Crooks, 2004).

**Magnification of anger.** In addition to findings demonstrating that maltreating fathers generally respond to their children’s negative emotions using less supportive and more non-supportive socialization practices, an emotion-specific pattern of findings also emerged related to fathers’ magnification of their children’s anger. Father magnification responses were examined across discrete categories of negative emotions (anger, sadness, fear) and were measured using the magnification subscales of the EAC (adult recall, child report, father report). Taken together, these findings consistently suggested that physically abusive fathers were more likely than non-maltreating fathers to respond to their children’s anger with a magnification of that anger (i.e., becoming angry when their child shows anger). In contrast, no differences were reported between maltreating and non-maltreating fathers in their magnification of their children’s sadness or fear. These emotion-specific results are consistent with previous research on maltreating mothers, which suggests that maltreated children expect more maternal anger in response to their own displays of anger (Shipman & Zeman, 2001).

This pattern of findings, which highlights the importance of the discrete emotion of anger within the maltreatment context, is not surprising given previous research that has described anger as one of the most important emotions in understanding physically abusive

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10 Coded observations of magnification were not possible using the PCEIT observational paradigm.
parenting (Peterson, Ewigman, & Vandiver, 1994). Indeed, abusive parents have been shown to experience high levels of anger and aggression, with notable deficits in anger management skills (Francis & Wolfe, 2008; Rodriguez & Green, 1997; Slep & O’Leary, 2007; Thompson et al., 1999). A recent study completed by Francis and Wolfe (2008) indicated that maltreating fathers experience greater feelings of anger, hostility, and suspicion than non-maltreating fathers and are more likely to show outward displays of anger. Moreover, there is some evidence that abusive parents have particular difficulty regulating their physiological and affective arousal when confronted with children’s negative emotions, making them more likely to react in a punitive and conflictual manner (e.g., less sympathy, more anger; Frodi, 1981; Frodi & Lamb, 1980; Milner & Dopke, 1997; Shipman & Zeman, 2001).

Physical abuse has often been described as developing within the context of hostile parent-child relationships and coercive relational dynamics (Chaffin, 2006; Patterson, 1982). In addition, a small but growing body of evidence suggests that maltreating fathers tend to be overly sensitive and perceive children’s emotions more negatively than they actually are. Maltreating fathers have also been shown to interpret their children’s behaviour through a lens of negative and hostile attribution biases, oftentimes demonstrating hypervigilance for any signs of rejection, defiance, and/or disrespect (Bugental & Happaney, 2000; Francis & Wolfe, 2008; Scott & Crooks, 2004). Taken together, these parenting factors have been linked with increased feelings of anger, as well as over-reactive and coercive parenting styles (Bugental & Happaney, 2000; Slep & O’Leary, 1998). As such, when discussing their child’s feelings of anger, maltreating fathers might form quick, negative cognitions and
impulses, which in turn cause them to develop their own feelings of anger and respond in ways that reflect this. Indeed, it seems possible that abusive fathers are more likely to respond to their child’s anger with their own reciprocal anger because they conceptualize their child’s anger as being directed at them, which interferes with their willingness to generate alternative explanations and responses and instead provokes a contagious, aggressive response (Slep & O’Leary, 2001).

**Emotion Socialization as a Pathway to Emotion Dysregulation**

The fourth and final hypothesis of the current dissertation predicted that the relationship between paternal maltreatment and child emotion dysregulation would be mediated by paternal emotion socialization practices. Consistent with this hypothesis, the findings of this research suggest that maltreated children are at increased risk of developing difficulties with emotion regulation and that this relationship is at least partially explained by their fathers’ use of maladaptive emotion socialization practices.

Across both studies and several measurement sources, simple mediation analyses revealed that paternal use of reward, neglect, punish (adult recall only), and magnification of anger had significant indirect effects on the relationship between paternal maltreatment and child emotion dysregulation. Specifically, these emotion socialization practices were each found to independently mediate the prediction of global measures of emotion regulation (ERC father report, DERS adult recall) by child maltreatment status. When more specific components of emotion regulation were explored (CEMS child report), paternal reward and neglect were found to mediate the relationship between maltreatment and emotion coping strategies, whereas paternal magnification of anger was found to mediate the relationship
between maltreatment and dysregulated emotional expression. These findings provide preliminary evidence that different socialization strategies contribute to children’s emotion regulation skills in unique ways within the context of physical maltreatment, whereby a lack of paternal emotional support (i.e., less reward, more neglect) may prevent children from developing adaptive coping skills to help manage their negative emotions, and paternal magnification of anger might cause children to engage in more outward displays of dysregulated emotional expression.

Multiple mediation models were utilized to explore the simultaneous effects of these mediator variables while accounting for any overlap between the various emotion socialization strategies. Across these analyses, total indirect effects were consistently significant and consideration of specific indirect effects (i.e., the unique influence of each mediator after controlling for the effects of the other mediators) suggested two main meditational constructs: one involving reward and/or neglect and another relating to magnification of anger. When data from victims of maltreatment were analyzed (i.e., adult recall, child report), neglect and magnification of anger tended to emerge as key socialization agents mediating the relationship between maltreatment and emotion regulation difficulties. Importantly, these patterns of relations remained significant after controlling for the effects of maternal maltreatment (adult recall) and paternal negative trait affect (child report), suggesting that non-supportive paternal responses and magnification of anger mediate the relationship between father-perpetrated maltreatment and child emotion regulation, even after accounting for the impacts of maternal maltreatment and paternal negativity. These findings are consistent with previous research, which has suggested that parents’ supportive responses
to children’s negative emotions are not as strongly or consistently related to child functioning as parents’ non-supportive responses (Eisenberg et al., 1998; Garside & Klimes-Dougan, 2002; O’Neal & Magai, 2005).

In contrast to these findings, father-reported neglect and reward were not found to be independent mediators when the effects of paternal negative trait affect were controlled for. In this model, fathers’ response patterns suggested that magnification of anger was the only unique mediator between physical abuse and emotion regulation. One possible explanation for the discrepancy between father and child report of neglect is that maltreated children misinterpreted their fathers’ responses to their emotions. This seems unlikely, however, given the plausibility of children’s reports and the consistency of findings showing abusive fathers to be more neglectful than non-abusive fathers. Alternatively, maltreating fathers may have had difficulty accurately self-rating neglect scale items such as ignoring, not focusing on, and/or attending to children’s emotions. Indeed, given past research suggesting that abusive fathers have difficulty taking their children’s perspectives (Asla et al., 2011; Francis & Wolfe, 2008), it seems unlikely that maltreating fathers would be sufficiently attuned and able to fully appreciate the extent to which their children experienced their behaviours as non-supportive and neglectful.

In interpreting these results, it is also important to note that significant results were most often found using shared informant models (e.g., the effect of child-reported emotion socialization on the relationship between maltreatment status and child-reported emotion regulation). No significant indirect effects were found when child-reported emotion socialization was combined with father-reported emotion regulation into a multi-informant
model. Although this raises concern about shared informant bias, it is also possible that a restrictive sample size, in combination with the increased error of measurement associated with multiple informant designs, contributed to this lack of findings. Indeed, when shared informant bias was again addressed in a model with multiple measurement methods (i.e., observation and father report data), results once again demonstrated the importance of paternal emotion socialization to emotion regulation outcomes. Although this model did not include a measure of magnification of anger, it still offers evidentiary support that study findings go beyond the effects of shared informant bias and helps provide a more robust understanding of the process by which supportive and non-supportive emotion socialization practices (i.e., validation and invalidation) impact on children’s emotion regulation. Table 12 provides a summary of results from all mediation analyses across both Study 1 and Study 2.

Taken together, results from the present research suggest that deficits in paternal socialization of emotion mediate the relationship between child maltreatment and children’s emotional dysregulation. This pattern of findings is consistent with previous research suggesting that maladaptive maternal emotion socialization practices may act as a mediating process through which child abuse affects children’s subsequent emotion regulation (Shipman & Zeman, 2001; Shipman et al., 2005; Shipman et al., 2007). The findings are also consistent with normative research documenting links between parents’ emotion socialization and children’s emotional development. In particular, findings from the current research are consonant with the emotion socialization paradigm suggested by Gottman and colleagues (1996, 1997). For instance, the reward and validation variables utilized in the current research encapsulate parental behaviours such as providing comfort, empathizing, and
### Study 1 and 2 Summary of Multiple Mediation Model Results

<table>
<thead>
<tr>
<th>Study Type</th>
<th>Data Source</th>
<th>Covariates</th>
<th>Mediator Variables</th>
<th>Total Indirect Effect</th>
<th>Specific Indirect Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>MV: Emotion Socialization (Adult Recall)</td>
<td>2. Neglect</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>DV: Emotion Regulation (Adult Recall)</td>
<td>3. Punish</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>4. Anger Magnify</td>
<td></td>
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</tr>
<tr>
<td></td>
<td>DV: Emotion Regulation (Adult Recall)</td>
<td>3. Punish</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>4. Anger Magnify</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Study 2 (Shared Informant Model)</td>
<td>IV: Maltreatment (CAS Report)</td>
<td>None</td>
<td>1. Reward</td>
<td>Significant</td>
<td>1. Reward</td>
</tr>
<tr>
<td></td>
<td>MV: Emotion Socialization (Father Report)</td>
<td>2. Neglect</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>DV: Emotion Regulation (Father Report)</td>
<td>3. Anger Magnify</td>
<td></td>
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</tr>
<tr>
<td></td>
<td>MV: Emotion Socialization (Child Report)</td>
<td>2. Neglect</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>DV: Emotion Regulation (Father Report)</td>
<td>3. Anger Magnify</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Study 2 (Shared Informant Model)</td>
<td>IV: Maltreatment (CAS Report)</td>
<td>1. Negative Trait Affect</td>
<td>1. Reward</td>
<td>Significant</td>
<td>1. Anger Magnify</td>
</tr>
<tr>
<td></td>
<td>MV: Emotion Socialization (Father Report)</td>
<td>2. Neglect</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>DV: Emotion Regulation (Father Report)</td>
<td>3. Anger Magnify</td>
<td></td>
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<tr>
<td></td>
<td>MV: Emotion Socialization (Child Report)</td>
<td>2. Neglect</td>
<td></td>
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<tr>
<td></td>
<td>MV: Emotion Socialization (Child Report)</td>
<td></td>
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<tr>
<td></td>
<td>DV: Emotion Regulation (Father Report)</td>
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<td></td>
</tr>
<tr>
<td>Study 2 (Multi-Informant/Method Model)</td>
<td>IV: Maltreatment (CAS Report)</td>
<td>1. Negative Trait Affect</td>
<td>1. Validation</td>
<td>Significant</td>
<td>1. Validation/Invalidation</td>
</tr>
<tr>
<td></td>
<td>MV: Emotion Socialization (Observation)</td>
<td></td>
<td></td>
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</tr>
<tr>
<td></td>
<td>DV: Emotion Regulation (Father Report)</td>
<td></td>
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</tbody>
</table>

Note: IV = Independent Variable; MV = Mediator Variables; DV = Dependent Variable. † All mediators included in multiple mediation models were previously found to be significant mediators in single mediation models. ‡ Reward and neglect were examined in a model with coping as the emotion regulation DV and anger magnify was entered into a separate model with dysregulated expression as the emotion regulation DV. ‡ Variables were too highly correlated to be able to distinguish their unique contributions (i.e., specific indirect effects).
problem solving; as such, it aligns closely with Gottman’s construct of emotion coaching, which has been shown to facilitate children’s physiological and affective regulation. Moreover, because neglect, punish, magnification of anger, and invalidation are unlikely to foster the discussion of emotion, these non-supportive practices are largely consistent with Gottman’s construct of emotion-dismissing, which has been shown to be emotionally dysregulating for children (Gottman et al., 1996, 1997).

It seems that maltreating fathers who engage in less supportive and more non-supportive emotion socialization practices fail to teach their children the problem solving and coping strategies necessary for adaptive emotion regulation. This is consistent with research on normative development suggesting that parental support of children’s emotions is associated with children’s use of effective coping strategies for managing physiological and affective arousal, whereas non-supportive parental responses are associated with poor coping, emotion dysregulation, and negative child outcomes (Eisenberg et al., 1996; Eisenberg et al., 1998; Eisenberg & Fabes, 1994; Gottman et al., 1996, 1997; O’Neal & Magai, 2005). In addition, fathers who neglect their children’s emotions may minimize the importance of children’s emotional experiences and may cause their children to be wary of acknowledging their feelings, resulting in even fewer opportunities to discuss and learn effective ways of coping with negative emotions (Eisenberg et al., 1996). This resultant lack of coping strategies may be particularly problematic given the highly emotionally arousing environments found within maltreating families.

Fathers’ tendencies to respond to their children’s anger with their own anger may provide another particularly powerful model for perpetuating dysregulated negative affect.
For example, since it appears unusual for maltreating fathers to be responsive to their children’s emotions (i.e., low levels of reward, high levels of neglect), the occasions when they are reactive (e.g., becoming angry in response to a child’s expression of anger) may be experienced as particularly impactful by their children. Indeed, maltreating fathers who become frustrated and angry in the face of their children’s expressed anger may have children who engage in thinking and/or behaviour that likewise exacerbates, rather than alleviates, negative mood. Though magnifying socialization practices have received relatively little empirical attention, Eisenberg, Fabes, Carlo, and Karbon (1992) demonstrated that parental distress reactions, whereby parents become upset in response to children’s negative emotions, are associated with children’s inappropriate emotional management (e.g., vengefulness in response to anger). As such, parents’ magnification of child anger potentially increases children’s arousal and discomfort, which may in turn create heightened distress and result in dysregulated affective expression. Over time, paternal magnification of child anger may be part of the coercive behavioural cycle that has often been described as contributing to the development of maltreated children’s chronically dysregulated emotional expression and subsequent psychopathology (Denham et al., 2000; Dix, 1991)

**Summary of Findings**

In summary, results from the current research confirm a high rate of father-perpetrated physical maltreatment within a university-based community sample of young adults, once again demonstrating the pervasiveness of this significant social problem. Moreover, across both a normative and clinical sample, current findings indicated several key areas of difference between maltreating and non-maltreating fathers and their children.
According to adult recall, child report, and father report, maltreated children were more likely to experience difficulties regulating their negative emotions. Maltreating fathers were also less likely to respond to their children’s negative emotions in a manner that conveyed support and scaffolding (reward, validation) and were more likely to respond in a non-supportive fashion (invalidation), oftentimes ignoring their children’s emotions (neglect), punishing or threatening to punish their children’s emotions (punish), and responding in a way that conveyed anger and distress (magnify anger). These maladaptive parental socialization practices were largely consistent across multiple informants and were found to mediate the relationship between child maltreatment and emotion dysregulation (for most models), thus helping to explain a potential underlying mechanism through which this effect is transmitted. In particular, maltreating fathers’ neglect of their children’s general negative affect and magnification of their children’s anger emerged as especially important pathways (according to victims of maltreatment) through which maltreatment influenced children’s emotion regulation.

Together, these results represent an important extension of previous work on parental socialization of emotion and help shed light on some of the pathways through which dysregulated emotion develops within the context of father-perpetrated abuse. Abundant research has shown that maltreated children are at elevated risk of maladaptive developmental trajectories characterized by emotion dysregulation (Kolko, 2002; Shipman et al., 2004); however, few studies have attempted to explain the underlying mechanisms through which this effect is transmitted. Findings from the current research suggest that this risk for emotion dysregulation is at least partially driven by the indirect effects of
maladaptive paternal emotion socialization practices. Given that similar effects were found when using data reported by several different informants, as well as through observational paradigms, one can feel confident that these findings suggest the manifestation of distinct processes in the development of emotion dysregulation in physically maltreating families.

Children’s development of adaptive emotion regulation skills is an imperative developmental task (Sroufe, 1979, 1996) that unfolds within and is highly influenced by their social environment. Parents are widely recognized as having a key role in the socialization of their children’s emotion regulation (e.g., Eisenberg et al., 1998) and, according to the results of the current research, maladaptive emotion socialization appears to be a salient mechanism through which maltreated children develop poor emotion regulation. Indeed, given that child maltreatment occurs within a multi-faceted parenting context, it seems reasonable that the nature of broader parent-child interaction factors would influence the severity with which children are negatively impacted by abusive parenting.

To demonstrate the implications of these results, findings can be examined within the framework of a transactional model, which postulates that emotion regulation difficulties are best conceptualized as developing through transactional processes within the context of interpersonal relationships (Fruzzetti & Iverson, 2006; Fruzzetti et al., 2005; Linehan, 1993). According to this theory, emotion dysregulation can result from recurrent transactions between a child’s emotional vulnerability and non-supportive, invalidating responses from others (e.g., parental neglect, dismissal, punishment, and/or magnification of children’s emotions). Transactions can begin with intrinsic or extrinsic factors and, given the current findings, it seems probable that the pervasive invalidation shown to characterize the emotion
socialization practices of maltreating fathers may at the very least sustain (if not initiate) this cycle, leading to increased and dysregulated emotional arousal. For example, given a lack of supportive socialization to help facilitate the development of adaptive coping strategies, it may be more difficult for maltreated children to manage and let go of negative emotions, especially given the stressful nature of their abusive environment. Over time, this may result in chronically elevated levels of negative affect and cause maltreated children to feel helpless and hopeless, recognizing that they are unable to cope with their emotions and that help is unlikely to come from their fathers. Maltreated children may also develop heightened sensitivity as a result of their fathers’ non-supportive and anger magnifying behaviours, becoming hypervigilant in an effort to avoid punishing or magnifying responses. Moreover, they may begin to anticipate negative consequences if they express their negative emotions, expecting low levels of support, with increased ignoring, neglecting, and punishing behaviours, as well as a magnification of their displays of anger. This may cause them to attempt to inhibit their emotional expression; however, with few coping strategies to help manage their suppressed affect, their negative emotions may build and eventually manifest as explosive and dysregulated behaviour. These cumulative effects may cause maltreated children to socially withdraw, experience excessive irritability, and/or act out disruptively, all of which further act to reduce opportunities for social support and increase the likeliness of invalidation from their fathers (and others), thus continuing the transactional cycle.

**Limitations and Future Research**

The current research has several strengths. First and foremost, this dissertation is unique in its use of a two-study design, which established findings in a large university
sample of young adults before examining the same constructs within a high-risk sample of maltreated children. As such, research findings were established with a relatively large, normative sample before being explored in more detail in a smaller, clinical sample; this helps increase the generalizability of research findings. In addition, a multi-informant and multi-measurement design was employed, which is an improvement from much previous research focusing predominantly on mother report. Both maltreated children (adult recall, child report) and maltreating fathers (father report) completed self-report data to examine parental socialization behaviour and emotion regulation, which is important given previous discrepancies between child and parent reports in the literature (e.g., Kazdin, 1994; Offord, Boyle, Racine, & Szatmari, 1996; Shipman & Zeman, 2001). Moreover, an observational paradigm of emotion socialization was included, which helps provide greater confidence in father and child report of socialization behaviour. Unfortunately, although the present studies used a multi-informant and mixed-methods approach, data characteristics and power constraints associated with small sample size limited the use of SEM. As a result, father and child reports of emotion socialization and emotion regulation could not be combined into latent variables and a large number of separate analyses were required to examine study hypotheses, resulting in possible problems with shared informant effects. It is important that future studies use larger sample sizes to continue to examine emotion socialization through multi-informant reports and observation, in order to replicate these findings (Denham & Kochanoff, 2002); where possible, SEM may be a more succinct method of data analysis.

Several other limitations, which decrease the scope of the current research findings and highlight several key areas for future study, should also be noted. One important
limitation involves a lack of detailed knowledge about the characteristics of abuse experienced by the study participants. For instance, the normative study only provides a snapshot of maltreatment experiences at the age of 10, which may not be reflective of experiences of abuse at other time points and does not account for chronicity of maltreatment. Furthermore, information on poly-victimization was not collected for either study; although none of the participants had known histories of sexual abuse, reliable information about experiences of emotional abuse, neglect, or domestic violence was not available. Furthermore, information on the age of onset, frequency, and severity of abuse was not gathered. This is problematic given that previous research has demonstrated that poly-victimization, as well as maltreatment that is experienced at a younger age and is more chronic and/or severe in nature, is often related to more significant developmental difficulties and adjustment problems (Felitti et al., 1998; Finkelhor et al., 2007a; Higgins & McCabe, 2001; Manly, Kim, Rogosch, & Cicchetti, 2001; Sroufe, Egeland, Carlson, & Collins, 2005).

Given that all participants from the retrospective study were drawn from a normative sample and all fathers from the clinical sample had access to their children at the time of data collection, it is unlikely that the sample included a significant number of severely maltreated children. As a result, generalizability of findings might be limited to children who experience mild to moderate physical abuse. It is possible that different etiological underpinnings are responsible for the outcomes experienced by severely abused children and/or victims of multiple forms of maltreatment, although this line of research has yet to be explored. To examine this more fully, future research should collect data on the
developmental timing, frequency, and severity of physical abuse, as well as children’s poly-victimization status.

A second limitation includes the use of a convenience sample of university students for Study 1. It is possible that participants may have self-selected and participated in the research study due to a personal history of either good or poor parenting, which would then impact the generalizability of findings. With respect to Study 2, data are not available on the number of families approached to participate in the study, or the consent rate. As a result, it is not clear whether the study was biased towards father-child dyads with better or worse functioning. For instance, fathers who were better engaged with their children might have been more willing to participate in parent-child interaction tasks. Alternatively, fathers with children who were experiencing greater difficulties in emotion regulation may have been more motivated because they felt participation would lead to more services (although the informed consent process made it clear that study participation would have no impact on service provision). Despite this concern, the range of actual scores on the emotion socialization and emotion regulation measures illustrates that dyads who enrolled had a wide range of positive to negative functioning, which provides evidence that the study sample was not unduly biased, at least on these dimensions.

Another limitation involves the use of retrospective recall in Study 1, which introduces concern about inaccuracies resulting from dependence on memory, mood, and awareness during the situation in question (Eslea & Rees, 2001; Hardt & Rutter, 2004). Attempts were made to address this concern by replicating findings from the normative study with the concurrent high-risk clinical sample. However, given the small sample size of the
clinical study and the relatively large number of included variables, replication through additional studies with larger sample sizes is needed in order to better elucidate relationships between study variables. For instance, due to its small sample size, the clinical study did not have the statistical power to fully explore the role of important factors such as child age, gender, or culture. Indeed, Study 2 included children across a broad age range and yet an exploration of this influence was not possible. This is problematic as fathers may respond differently to children’s emotions at different ages. It is also possible that younger children were less reliable in responding to questionnaire items. Given previous investigations demonstrating gender differences in children’s emotional development (Katz, Maliken, & Fainsilber, 2012; Saarni, 1999), future studies should also explore whether maltreating parent-child interactions impact boys’ and girls’ emotion regulation differently. Lastly, future research should assess the cultural context within which maltreating parents socialize their children’s emotions in order to better understand the generalizability of findings and facilitate the development of more culturally sensitive interventions.

With regards to design, the current research utilized cross-sectional studies that impede the generation of causal inferences about the role of paternal socialization processes in the regulatory development of maltreated children. As a result, directionality of effects cannot be determined and the possibility that results may partially represent child effects, whereby a child’s intrinsic regulatory predisposition influences their father’s emotion socialization practices and exacerbates their initial problem, cannot be ruled out. Indeed, reciprocal influences between child emotion regulation and parent-child interactions seem inevitable (Rothbaum & Weisz, 1994), although an empirical investigation of such cyclical
patterns of influence is not possible with the current research design. Given that socialization effects are best understood through patterns that evolve over time, future longitudinal studies are needed to help separate child and parent effects and facilitate a better understanding of the direction of relations. In addition, the dynamic role of genetic factors should be considered, given the critical need for a better understanding of the mechanisms of gene and environment interactions (Rutter, 2007).

Another important methodological consideration is the approach used to measure emotion regulation. For instance, although child report findings suggest high levels of dysregulated emotional expression in maltreated children, the internal consistency coefficient for this scale was lower than would be desired (Cronbach’s alpha = .60), which should be addressed by future research. In addition, no maltreatment-related differences were noted in emotional inhibition; this finding was unexpected given previous research demonstrating an association between these constructs (Shields & Cicchetti, 1998; Shipman & Zeman, 2001). It currently remains unclear whether this null finding is accurate or represents a measurement error due to poor construct validity. As such, emotional inhibition appears to be an important area for further inquiry. Further research including physiological and observational indicators of children’s emotion regulation will also serve to complement and expand on the findings in the current dissertation (Zahn-Waxler, Klimes-Dougan, & Kendziora, 1998).

Emotion regulation has long been recognized as a highly complex phenomenon that is difficult to assess (Eisenberg et al., 2000; Gross, 1998; Morris et al., 2007; Thompson, 1991, 1994; Thompson, Lewis, & Caulkins, 2008); as such, a multiple perspective analysis approach will help clarify future findings (Weems & Pina, 2010). Continuing to consider
complementary sources of information will no doubt provide a more complete understanding of the complexities of how children regulate their internal experiences and external displays of emotion.

With respect to emotion socialization, future research should better clarify whether the EAC override scale is a supportive or non-supportive facet of socialization and determine whether the scale has adequate construct validity. In the current research, no differences were found between maltreating and non-maltreating fathers in their tendencies to override their children’s negative emotions. These results are not surprising given that the override scale seems to include a mix of positive and negative socialization practices. Specifically, while the override scale includes distraction strategies meant to help children manage their negative affect, it also appears to capture a less validating and somewhat dismissive parental socialization style. Future research should also analyze the factor structure of the EAC. Although several emotion socialization practices were consistently found to exert significant simple indirect effects, the proposed multiple mediation models were oftentimes unable to disentangle the unique contribution of these variables. A closer examination of the data suggests that some of the emotion socialization strategies may not represent distinct constructs. In particular, it seems likely that reward and neglect may have been tapping into the same socialization construct. Evidence for this critique is demonstrated through high negative correlations between the reward and neglect variables (ranging from $r = -0.80$ to $-0.91$ depending on informant). In other words, it is likely that multiple mediation analyses were unable to determine the specific indirect effects of reward and neglect because low levels of reward may simply represent another manifestation of high levels of neglect, and
vice versa. Although previous theoretical and empirical research has discussed reward and neglect as distinct constructs (e.g., Garside, 2004; Magai, 1996), results from the present research certainly indicate that it is difficult to statistically separate the two within the current samples. As such, future researchers should continue to explore the EAC measurement model (i.e., using exploratory factor analyses) in an effort to determine whether or not it is useful to continue employing competing terms for what may be the same construct. It is possible that a single term such as “supportiveness” or “responsivity” may help decrease ambiguity, address problems of multicollinearity, and better represent what has been previously studied under the names “reward” and “neglect.”

A more in-depth exploration of the context of paternal emotion socialization is another important focus for future research. In the present research, measurements of emotion socialization did not differentiate between situations when fathers were responding to an emotion that was elicited by something they did (e.g., engaged in maltreatment, denied the child something they wanted) and emotions generated by something someone else did (e.g., a fight with a sibling or peer). Given previous research demonstrating that abusive fathers tend to be overly sensitive and hyper-vigilant for signs of rejection (Scott & Crooks, 2004), it seems possible that abusive fathers would have particular difficulty responding supportively to children’s negative feelings arising from the maltreatment itself. As such, a more precise analysis of the various antecedents of children’s negative emotions will help provide insight into potential socialization differences across different emotion eliciting situations.
Finally, consideration must be given to the fact that the mediation models did not account for all variance across children’s emotion regulation. This indicates that more remains to be learned about the mechanisms through which maltreated children develop regulatory difficulties. Future research should continue to focus on paternal socialization while also including measures of maternal socialization in order to provide a more holistic understanding of the role of parental socialization of emotion and to determine whether maternal and paternal socialization processes interact in a way that is protective, additive, or multiplicative in nature. Efforts should also be made to improve the ecological validity of emotion socialization observations, such as by completing in-home observations of parent-child interactions during authentic times of heightened emotion. Lastly, future research would benefit from expanding in scope to include a wider range of emotion socialization practices (e.g., modeling of emotion regulation, warmth and hostility, levels of expressiveness), as well as additional potential risk and protective factors (e.g., domestic violence, family stress, attachment style, parental psychopathology). Such an integrated approach would help to determine whether these different emotional factors are all suggestive of a similar developmental process and would enable an exploration of interactions between the various constructs.

**Clinical Implications**

The acquisition of adequate emotion regulation skills represents a critical developmental task of childhood that subsequently impacts on a wide range of outcomes essential to social-emotional competence and general well-being (Gross & Thompson, 2007; Sroufe 1979, 1995; Zeman, Cassano, Perry-Parrish, & Stegall, 2006). As noted in the
literature review, previous research has demonstrated that maladaptive parental emotion socialization practices represent a significant risk factor for children’s emotion dysregulation (e.g., Gottman et al., 1996, 1997). Findings from the current research build on these findings and suggest that families with a history of paternal maltreatment may represent a particularly important population in which to monitor and target this risk. Indeed, results suggest that abusive fathers respond to their children’s negative emotions differently (less supportive, more non-supportive, greater magnification of anger) than non-abusive fathers, and that these responses mediate the regulatory development of maltreated children. As such, it appears that paternal emotion socialization is a potential mechanism through which children develop maladaptive emotion regulation strategies in the context of father-perpetrated physical abuse. Although these findings require replication and extension, they provide some preliminary direction for the development of prevention and intervention efforts for the many families who have experienced, or are at risk for experiencing, physical maltreatment.

First and foremost, this dissertation highlights child emotion regulation skills as an area that may warrant specific, targeted intervention in the context of maltreatment. Given that maltreated children have been shown to be at risk for dysregulated emotional expression and deficits in their coping strategies, intervention programs that focus on improving children’s ability to regulate their emotions might help to buffer children from some of the negative sequelae associated with physical maltreatment. In particular, children might be helped to recognize and label emotions, identify appropriate ways to express their feelings, and develop and practice flexible strategies (that are context and situation sensitive) to help modulate their emotional reactions. Cognitive behavioural approaches to intervention (e.g.,
teaching distraction, cognitive reframing, behavioural changes) that incorporate specific training of emotion regulation skills might be especially beneficial (Berking et al., 2008).

Although supporting the development of emotion regulation skills in maltreated children may help to reduce some of the negative outcomes associated with physical abuse, there are limits to the degree to which a child can, and should be expected to, change without addressing maladaptive parenting factors. Indeed, findings in this dissertation highlight the critical need for design and implementation efforts geared towards the development of intervention programs for abusive fathers. In current frontline practice, fathers are often viewed as unimportant or dangerous to children’s development and are thus excluded from most services (Scourfield, 2001), with few intervention programs currently designed for maltreating fathers (Featherstone, 2001; Featherstone & Peckover, 2007; Sternberg, 1997). Results from the current research suggest that this is a noteworthy and problematic shortcoming in current intervention services given that: (1) fathers are common perpetrators of childhood physical abuse, (2) many maltreating fathers continue to have contact with their children after incidents of abuse, and (3) father-child emotion socialization interactions represent a mechanism through which maltreated children develop emotion dysregulation. It is hoped that the current dissertation will encourage increased attention to maltreating fathers, help clarify the ways in which fathers can both positively and negatively impact their children’s emotional development, and guide the development of intervention programs for maltreating fathers that can help optimize child functioning.

In addition to reducing physical violence, prevention and intervention programs should focus on teaching abusive and high-risk fathers skills for responding to their
children’s emotions in appropriate ways, such that they are able to help their children manage their emotions. Intervention programs should attempt to build fathers’ awareness of their children’s emotions and include parent education that increases understanding of children’s emotional development. Moreover, a critical goal of treatment should involve explicit training and intervention in order to improve fathers’ emotion socialization skills. Such training could include lessons on the importance of responding to children in emotionally arousing situations, how to talk about negative emotions with their children, and emotion regulation strategies that are age- and situation-appropriate. In particular, the present research findings highlight the importance of helping fathers to identify and reduce non-supportive and emotion-dismissing responses, such as ignoring, punishing, and magnifying their children’s negative emotions. Findings also suggest the need to teach maltreating fathers how to provide the support, scaffolding, and emotion coaching necessary for children to develop adaptive emotion regulation skills. In addition, given present results suggesting that maltreating fathers frequently respond to child anger with a magnification of that anger, it will be important to address these coercive cycles and incorporate anger management components (e.g., increasing fathers’ awareness of their own anger, teaching anger management strategies) into prevention and treatment efforts. Finally, while facilitating behavioural change and emotion socialization skill development in maltreating fathers is a critical first step towards improving emotion regulation in maltreated children, previous research suggests that parents often have a characteristic approach to emotion that is driven by systematic attitudes and cognitions about it (Gottman et al., 1997). As such, intervention programs should also make sure to address fathers’ beliefs and attitudes about emotion.
Although it is currently unclear whether maltreating fathers can alter their meta-emotion philosophy and be taught to use more supportive emotion socialization practices in their interactions with their children, a small number of normative studies have begun to provide support for the efficacy of intervention programs targeting parental emotion socialization practices (e.g., Havighurst, Wilson, Harley, Prior, & Kehoe, 2010). In addition, previous research has demonstrated significant improvements in child behaviour problems after intervention strategies have focused on changing specific parenting behaviours, demonstrating that parents can learn to decrease coercive behaviour and increase positive parent-child interactions (e.g., Webster-Stratton, 1982). Given the consistent findings of the current research, attempts to teach parents more supportive ways of responding to their children’s emotions should be an imperative goal of intervention programs for maltreating fathers. Furthermore, future research should focus on evaluating the efficacy of such treatment programs, such that researchers and clinicians will be better able to intervene in abusive father-child relationships.

Conclusions

The studies included in the present dissertation contribute to the child development, emotion regulation, and maltreatment literatures in a number of different ways. First and foremost, research findings add to the current literature through their focus on maltreating fathers, representing an important first step towards a better understanding of father-perpetrated abuse. Furthermore, although previous research has demonstrated that physical maltreatment places children at risk for developing deficits in their emotion regulation potentials, the current dissertation extends this line of inquiry by proposing potential
parenting pathways through which this risk is conferred. Taken together, results may contribute to our understanding of the specific processes that play a role in the regulatory difficulties of maltreated children. It is also hoped that these research findings will help inform prevention and intervention programs for abusive and high-risk families, in an effort to prevent and/or ameliorate the maladaptive developmental trajectories commonly observed in victims of child maltreatment.


or household dysfunction during their childhood. *JAMA: Journal of the American Medical Association, 282*(14), 1359-1364.


Appendices
Appendix 1

Study 1 Ethical Approval

University of Toronto
Office of the Vice-President, Research
Office of Research Ethics

PROTOCOL REFERENCE #24539

November 2, 2009

Dr. Katreena Scott
OISE/ University of Toronto
252 Bloor St
Toronto, ON
M5S 1V8

Ms. Holly C. McGinn
OISE/ University of Toronto
252 Bloor St
Toronto, ON
M5S 1V8

Dear Dr. Scott and Ms. McGinn,

Re: Your research protocol entitled “Mothers’ and Fathers’ Use of Parenting Practices and Disciplines Techniques: An Examination of the Correlates of Parenting”

ETHICS APPROVAL

Original Approval Date: November 2, 2009
Expiry Date: November 1, 2010
Continuing Review Level: 1

We are writing to advise you that a member of the Social Sciences, Humanities & Education Research Ethics Board has granted approval to the above-named research study, for a period of one year, under the REB’s delegated review process. Please ensure that you submit an Annual Renewal Form or a Study Completion Report at least 30 days prior to the expiry date of your study.

All your most recently submitted documents have been approved for use in this study.

Any changes to the approved protocol or consent materials must be reviewed and approved through the amendment process prior to its implementation. Any adverse or unanticipated events should be reported to the Office of Research Ethics as soon as possible.

If your research has funding attached, please contact the relevant Research Funding Officer in Research Services to ensure that your funds are released.

Best wishes for the successful completion of your project.

Yours sincerely,

Daniel Gyewu
Research Ethics Coordinator

McMurrich Building, 12 Queen’s Park Cres. W., 2nd Floor Toronto, ON M5S 1S8
TEL: 416-946-3273 FAX: 416-946-5763 EMAIL: ethics.review@utoronto.ca
# Appendix 2

### Study 1 Intercorrelations Across Adult Recall of Emotion Socialization (EAC) Subscales

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*Note: Correlations greater than or equal to ±.14 are significant at p < .05 (2-tailed), greater than or equal to ±.19 are significant at p < .01 (2-tailed), and greater than or equal to ±.24 are significant at p < .001 (2-tailed).*
# Appendix 3

*Study 1 Internal Consistency for Emotion-Specific and Total Emotion Socialization Subscales of the Adult Recall of the EAC*

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Appendix 4

Study 2 Ethical Approval

University of Toronto
Office of the Vice-President, Research
Office of Research Ethics

PROTOCOL REFERENCE # 24748
February 2, 2010

Dr. Katreena Scott
OISE/University of Toronto
252 Bloor St. W.
Toronto, ON M5S 1V6

Ms. Holly C. McGinn
OISE/University of Toronto
252 Bloor St. W.
Toronto, ON M5S 1V6

Dear Dr. Scott and Ms. McGinn:

Re: Your research protocol entitled, "The role of emotion socialization in the development of children's emotion regulation skills in maltreating and non-maltreating father-child dyads"

ETHICS APPROVAL

Original Approval Date: February 2, 2010
Expiry Date: February 1, 2011
Continuing Review Level: 2

We are writing to advise you that the Social Sciences, Humanities and Education Research Ethics Board has granted approval to the above-named research study, for a period of one year. Ongoing projects must be renewed prior to the expiry date.

All your most recently submitted documents have been approved for use in this study.

Any changes to the approved protocol or consent materials must be reviewed and approved through the amendment process prior to its implementation. Any adverse or unanticipated events should be reported to the Office of Research Ethics as soon as possible.

Please ensure that you submit an Annual Renewal Form or a Study Completion Report 15 to 30 days prior to the expiry date of your study. Note that annual renewals for studies cannot be accepted more than 30 days prior to the date of expiry, as per federal and international policies.

If your research has funding attached, please contact the relevant Research Funding Officer in Research Services to ensure that your funds are released.

Best wishes for the successful completion of your project.

Yours sincerely,

S. Lanthier
Research Ethics Coordinator
### Appendix 5

#### Study 2 Intercorrelations Across Father-Reported Emotion Socialization (EAC) Subscales

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*Note:* Correlations greater than or equal to ± .36 are significant at p < .05 (2-tailed), greater than or equal to ± .46 are significant at p < .01 (2-tailed), and greater than or equal to ± .57 are significant at p < .001 (2-tailed)
Appendix 6

Study 2 Internal Consistency for Emotion-Specific and Total Emotion Socialization Subscales of Father Report of the EAC

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Appendix 7

Study 2 Intercorrelations Across Child-Reported Emotion Socialization (EAC) Subscales

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Note: Correlations greater than or equal to ± .36 are significant at $p < .05$ (2-tailed), greater than or equal to ± .46 are significant at $p < .01$ (2-tailed), and greater than or equal to ± .57 are significant at $p < .001$ (2-tailed)
Appendix 8

Study 2 Internal Consistency for Emotion-Specific and Total Emotion Socialization Subscales of Child Report of the EAC

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### Appendix 9

**Study 2 Follow-Up Analyses of Indirect Effects of Paternal Emotion Socialization on the Relationship between Paternal Maltreatment (IV) and Emotion Regulation (DV) for Father Report (Multiple Mediation Models)**

Mediators: Reward, Magnify Anger

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<th>Effect of IV on DV w/ IV</th>
<th>Effect of DV mediator</th>
<th>Bootstrap point estimate</th>
<th>95% bootstrap confidence interval</th>
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<td>-.220 (.182)</td>
<td>-.584* (.260)</td>
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<td>-.198 (.108) [-.4569, -.0208]</td>
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The overall model had a significant total indirect effect with a point estimate of -.265 and a 95% bias corrected CI of -.6597 to -.0704.

Mediators: Neglect, Magnify Anger

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<th>Effect of IV on DV w/out IV</th>
<th>Effect of IV on DV w/ IV</th>
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<td>-.491** (.141)</td>
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<td>-.093 (.094)</td>
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<td>1.415** (.435)</td>
<td>-.154* (.058)</td>
<td>-.221 (.115) [-.5074, -.0499]</td>
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The overall model had a significant total indirect effect with a point estimate of -.261 and a 95% bias corrected CI of -.6905 to -.0683.

Note. Boldface text indicates a significant indirect effect. Analyses include paternal negative trait affect as a covariate. Bootstrap estimates are based on 5,000 resamples. Significance testing is not conducted on bootstrap point estimates; instead, a significant effect is indicated via a 95% confidence interval that does not include zero. Standard errors are listed in parentheses. Bias corrected confidence intervals are listed in brackets. N = 28. *p < .05; **p < .01; ***p < .001.