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EXAMINING THE EFFECTIVENESS OF THE  
CIRCLE OF SECURITY PARENTING DVD PROGRAM

By

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Dissertation

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### **Abstract**

Child maltreatment continues to occur at alarming rates, and while several interventions currently exist for use with parents to minimize the incidence of child maltreatment (Daro & McCurdy, 2007), many can be time consuming for service providers *and* consumers. One program, the Circle of Security (COS), lasts 20 weeks with weekly sessions lasting approximately 2 hours each (Marvin, Cooper, Hoffman, & Powell, 2002). To make the program more accessible, the program's originators modified it into a DVD protocol comprising only 8-weeks (Cooper, Hoffman, & Powell, 2009). The current study evaluated the effectiveness of the COS DVD program in improving parent-child relationships. Most participants were randomly assigned to either a Treatment-Control (n = 24) or Control-Treatment group (n = 13); the Treatment-Control group participated immediately in treatment, while the Control-Treatment group waited to begin until after the Treatment-Control group had finished. Groups were compared on several outcome measures, including reflective functioning—the target of intervention. Repeated measures ANOVAs detected few significant differences between groups across time on most variables, although some trends emerged. Results indicate the need for further study and suggest that the DVD version may require necessary components removed from the original program.

*Keywords:* early intervention, parent-child relationships, reflective functioning

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Examining the Effectiveness of the  
Circle of Security Parenting DVD Program

As many as one child in 25, and no fewer than one child in 58, experiences maltreatment (Sedlak, Mettenberg, Basena, Petta, McPherson, et al., 2010). The former refers to the more inclusive Endangerment Standard, which simply requires the child be regarded as endangered because of the maltreatment, while the more stringent Harm Standard, which requires the child to have experienced harm or injury from the maltreatment, determines the latter. A considerable percentage of those were abused (at least 29%), while even more were neglected (at least 61%). Incidents of maltreatment, abuse, and neglect often come to the attention of the judicial system. The courts then have the authority to remove children from harmful situations but are mandated to try to keep the family together or to reunite them. To do so, the courts often mandate that the parents participate in treatment designed to improve the relations with their children.

Several interventions currently exist for use with parents, oriented toward the goal of reducing child abuse and neglect (Daro & McCurdy, 2007). Most of these view the parent as the cause of maltreatment, and so focus on the parent's knowledge and behavior; most take the form of parent training. More recent programs have recognized the need to look beyond the parent's knowledge and behavior to include the broader parent-child relationship and patterns of interaction between parents and their children. Two such programs with considerable evidence supporting their clinical effectiveness are Parent-Child Interaction Therapy (PCIT; Chaffin, Silovsky, Funderburk, & Valle, 2004) and the Positive Parenting Program (or Triple P; Prinz, Sanders, Shapiro, Whitaker, & Lutzker, 2009). Both programs focus on improving the parent-child relationship by teaching the parent more positive forms of interacting, behavior management skills, and parenting strategies. For example, PCIT has been found to reduce the



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risk for future maltreatment perpetration by decreasing the amount of negative parent-child interactions (Chaffin et al., 2004).

Many parent training programs are offered through and in conjunction with other services. For example, the Incredible Years (IY) program uses teachers in the classroom and peer support groups in addition to parent education (Daro & McCurdy, 2007). The IY program is one of a few programs that have randomized clinical trials to substantiate its effectiveness, in which parents were shown to have reduced depressive symptoms, increased positive affect, and used less harsh discipline with their children (Webster-Stratton, 1998). These improvements in the parenting experience as a result of program participation translate into greater parental empathy and less dysfunctional interactions between parents and their children (Marcynyszyn, Maher, & Corwin, 2011).

Given the high prevalence of child maltreatment and subsequent economic burden to society, cost-effective prevention and intervention programs are of significant interest to social service providers (Fang, Brown, Florence, & Mercy, 2012). For instance, home visitation programs can include costs associated with travel for the visitor as well as the time spent on the program for both the families and the visitors (Formby, Shadoin, Shao, Magnuson, & Overman, 2006). Additionally, taxpayers incur costs associated with salaries for program personnel and home visitors, as well as upkeep for the program's facilities. However, it should be noted that the costs of implementing existing programs are far outweighed by those associated with child maltreatment, as will be discussed later.

While there are several evidence-based interventions that focus on reducing child maltreatment, they can be time consuming for both service providers and consumers. One such area of intervention that is gaining considerable recognition is early home visiting services with

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parents of infants or young children (Daro & McCurdy, 2007). In multiple home visits, the visitor uses modeling to illustrate effective parent-child interactions, educates the parents about child development and health, promotes the parent's life goals (e.g., education), and offers social support. These programs have shown a significant reduction in child maltreatment when used with families including children under three years old, although effect sizes for reduction vary from small to large. In addition, one study found that mothers who were visited by nurses during pregnancy and the first two years of the child's life were involved in fewer substantiated cases of child maltreatment in the period before the child's 15<sup>th</sup> birthday than a comparison group who did not receive visitation (Olds, Eckenrode, Henderson, Kitzman, Powers, et al., 1997). A considerably time intensive program called the Minnesota Early Learning Design (MELD) lasts two years and involves large group meetings to discuss a variety of parenting and personal topics including child development, healthcare, and guidance as well as personal growth (Hoelting, Sandell, Letourneau, Smerlinder, & Stranik, 1996). Interestingly, groups are facilitated by volunteer parents who are trained and supervised by a MELD professional certified to supervise the program. MELD has shown positive outcomes with mothers of young children including enhanced empathic awareness of children's needs and increased disapproval of physical punishment.

Other problems associated with intensive and lengthy interventions are related to adherence and attrition; that is, some participants find it hard to maintain the schedule, have trouble finding weekly transportation, or require childcare frequently (Daro & McCurdy, 2007). For example, one program, the Circle of Security (COS), lasts 20 weeks with weekly sessions lasting approximately 2 hours each (Marvin, Cooper, Hoffman & Powell, 2002). To address

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concerns for attrition, time, and cost, the originators of the COS program modified the original to make the intervention more accessible to more caregivers (both are described in a later section).

The modified version of COS uses a DVD program and lasts only 8-weeks (Cooper, Hoffman, & Powell, 2009). This shorter version is being widely used with at-risk parents, such as those who have lost custody or are at risk of losing custody of their children, (i.e., parents who are involved with Child and Family Services [CFS] or Child Protective Services [CPS]). Moreover, the number of mental health professionals being trained in the protocol continues to multiply. Currently, however, the DVD program has not been evaluated and no evidence exists for its clinical effectiveness, although there is some empirical evidence supporting the utility of the original COS on which it was based (Marvin et al., 2002; Hoffman, Marvin, Cooper, & Powell, 2006; Hoffman & Marvin, 2009). For this reason, there is need for a rigorous examination of the effectiveness of the DVD program. The specific aim of the current study was to evaluate the effectiveness of the brief COS DVD program in improving parent-child relationships. More specifically, the study examined whether the program enhanced a caregiver's ability to keep in mind both the child's and his or her own mental states—a primary goal of the program (Marvin et al., 2002).

### **Child Maltreatment and Its Consequences**

The most recent National Incidence Study of Child Abuse and Neglect revealed that more than 1.25 million children were maltreated in 2005 to 2006, according to the more rigid Harm Standard; when the more lenient Endangerment Standard is considered, that number jumps to nearly 3 million (Sedlak et al., 2010). A considerable percentage of those experienced physical (58% and 57%, respectively), emotional (27% and 36%), and sexual (24% and 22%) abuse, while many more were physically (38% and 53%) or emotionally (25% and 52%) neglected.

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Although the number of children who are maltreated has decreased substantially (by 19%) since the previous national incidence study in 1993, a significant portion of children in the United States still suffer harm that could be prevented.

The consequences of child abuse and neglect can be extensive and long lasting (Segal & Dalziel, 2011). These include harmful effects on physical and psychological health as well as on education, economic productivity, and life expectancy. Moreover, the consequences of child maltreatment often act simultaneously as risk factors for the perpetuation of child abuse and neglect, such as drug and alcohol abuse, mental health problems, criminal activity, early pregnancy, and low quality parent-child relationships. For example, drug and alcohol abuse is an outcome consistently associated with early maltreatment, which also acts as a risk factor for the *perpetration* of child maltreatment (Appleyard, Berlin, Rosanbalm, & Dodge, 2011). As a result, one incident of child abuse can increase the risk for intergenerational transmission of maltreatment. Given the implications, it is not surprising that child maltreatment has high costs to society (Fang et al., 2012).

Estimates of the economic burden of child maltreatment to society are appalling (Fang et al., 2012) and help illustrate why the World Health Organization labeled child maltreatment “a public health problem of absolute priority” (Segal & Dalziel, 2011, p. 274). For instance, one study (Fang et al., 2012) estimated several categories of cost associated with child maltreatment in the United States: health care, child welfare, criminal justice, and special education costs, and productivity losses. Results revealed the average estimated lifetime cost of one incident of nonfatal child maltreatment at \$210,012, encompassing \$32,648 in short-term and \$10,530 in long-term physical and mental health care costs; \$7,728 in child welfare costs; \$6,747 in criminal justice costs; \$7,999 in special education costs; and finally, \$144,360 in productivity losses.

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Additionally, the entire lifetime economic burden that results from new fatal and nonfatal cases of child maltreatment was estimated at \$124 billion; however, it could potentially be as high as \$585 billion when including investigated cases, which increases the estimates of new cases of child maltreatment in calculating costs. Given these extreme costs to individuals and society, policy and preventative/intervening efforts must be driven toward developing inexpensive, timely, and effective programs that can meet the need evident in the preceding numbers, and ultimately toward major reductions in child maltreatment.

There are a multitude of socio-emotional and developmental costs associated with child maltreatment that are particularly salient for the victim and his or her family. Victimized children are experiencing maltreatment at the hands of individuals who are expected to provide care and protection, not harm; as a result, maltreated children are much more likely to develop insecure and disorganized attachments to caregivers (Asawa, Hansen, & Flood, 2008). Moreover, the parent-child relationship is the context in which children develop emotion regulatory and empathic capabilities that will in turn facilitate their experiences in other social relationships and those with their own future children (Okado & Azar, 2011). For instance, children who experience warm and supportive relationships learn to regulate their emotional experiences, which in turn facilitate their capacities for prosocial behavior, such as empathy and perspective taking. On the other hand, children who do not experience such warmth and support in the context of the parent-child relationship may fail to fully develop those capabilities, and could consequently be at increased risk for perpetuating similar relational patterns with their children. In another study examining developmental pathways in a sample of college students, researchers found that extremes in emotional distance between a mother and her child (i.e., either

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enmeshed or disengaged) increased the child's risk of perpetrating maltreatment, an effect that was mediated by his or her emotional reactivity (Okado & Azar, 2011).

Beyond low quality attachments, there are many other child and parent correlates associated with child maltreatment. Younger children and infants are more likely to be abused than their older counterparts (Palusci, 2011). Moreover, infants and young children are more likely to be physically or medically neglected, rather than physically abused. With regard to their parents, teenage pregnancy, depression, substance and alcohol abuse, low socioeconomic status, multiple children, and single parenthood have regularly been found in the literature to be precursors to child maltreatment. For example, in one study, a majority (84%) of the parents who maltreated their child were diagnosed with a mental disorder, as measured by the DSM (Asawa et al., 2008). Similarly, there is substantial evidence linking drug and alcohol abuse to child maltreatment; one significant piece of evidence is the association between changing levels of child maltreatment and changing levels of substance abuse in the population. Finally, and of most relevance to the current study, poor parenting practices and knowledge are consistently linked with child maltreatment. Indeed, corporal forms of punishment (such as spanking and slapping) have been shown to increase the likelihood of physical abuse (Asawa et al., 2008; Straus, 2001).

As noted earlier, one of the most significant implications of child maltreatment is that the risk of intergenerational transmission of maltreatment is high given that the consequences of maltreatment can also act as risk factors for maltreatment perpetuation by the offspring (Segal & Dalziel, 2011). In a longitudinal study of 499 mothers and their infants, researchers examined the relationship between the mother's abuse history, her substance use problems, and child maltreatment (Appleyard et al., 2011). Results revealed a mediating effect of substance use on

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the relationship between maternal history of physical and sexual abuse—but not neglect—and infant/toddler maltreatment. The preceding study illustrates a possible trajectory from child maltreatment in the caregiver-child relationship to adult perpetration by means of a failure to successfully manage one's emotional experiences (i.e., by using substances to do so). However, despite high rates of transmission, not all parents who have been maltreated as children go on to abuse or neglect their own children, leading some researchers to investigate the difference between those “who break versus those who perpetuate the intergenerational cycle of child maltreatment” (Zuravin, McMillen, DePanfilis, & Risley-Curtiss, 1996, p. 316).

One study examined the impact of different types of maltreatment, the combined influence of experiencing multiple types of maltreatment, and frequency or severity of maltreatment on transmission (the dose hypothesis; Zuravin et al., 1996). In addition, attachment quality was investigated as a risk factor for transmission (the attachment hypothesis). The dose hypothesis was only partially supported, as only sexual abuse severity was related to transmission. With regard to type of maltreatment, no type was more likely to lead to transmission. The attachment hypothesis was also supported: those who experienced a low quality attachment were more likely to perpetuate the cycle of maltreatment, regardless of maltreatment type. The researchers suggested that a focus on attachment relationships might be particularly beneficial in breaking the cycle. Indeed, despite the variety of risk factors associated with child maltreatment, one consistent finding links poor quality parent-child relationships to child maltreatment.

### **Attachment Theory**

Attachment theory proposes that nearly every infant will form an attachment bond with a caregiver and that these early experiences will have a substantial influence on children's

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development (Weinfield, Sroufe, Egeland, & Carlson, 2008). In accordance with evolutionary perspectives, attachment theorists claim that infants come into the world with a variety of attachment behaviors (e.g., clinging, smiling, crying, cooing) ready to be directed towards a bigger and stronger individual who will respond to such behaviors during times of danger. On the other hand, infants are prepared to explore their environments in order to learn about the world, but given their immaturity, need guidance and protection to do so. Therefore, the quality of early interactions between caregiver and infant will determine the attachment strategy—that is, the allocation of attachment and exploratory behaviors—the child uses to obtain his or her attachment-related needs from his or her caregiver, such as comfort in times of distress and support during exploration. The caregiver's ability to oscillate between the provision of comfort in times of need and support for the infant's exploration defines the quality of the attachment bond. Ultimately, the child becomes very skilled at perceiving his or her caregiver's availability in times of need.

Some infants experience a balance of comfort and support from their caregiver and thus develop a secure attachment strategy in which they seek proximity in times of distress and whose caregiver provides them appropriate support during their exploration (Weinfield et al., 2008). Caregivers of secure infants are available when the child perceives threat in the environment and they provide reassurance for the child's exploration when the threat is no longer perceived. However, these caregivers continue to be available should the child perceive danger in the environment. Thus, the caregiver acts as a *secure base* from which to explore and a *safe haven* to which to return (two core constructs of the COS program; Marvin et al., 2002). As a consequence, children derive security from the relationship and carry forward the sense of



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security in their subsequent relationships and “interactions with the world” (Weinfield et al., 2008, p. 79).

Insecurely attached children do not experience confidence in the availability of their caregivers, and therefore, do not experience security within the relationship (Weinfield et al., 2008). Their caregivers are inconsistently available and comforting when needed, and in response, their infants are anxious and fearful when exploring the environment. In response, the caregiver is often not entirely successful in alleviating her child’s anxiety with his or her presence and attempts at comfort. Indeed, the means by which caregivers respond to their children’s pattern of attachment and exploratory behaviors significantly contributes to the type of insecurity. For instance, caregivers who sporadically respond to their child’s attachment behaviors and seemingly reject their need for exploration help produce anxious-resistant (or ambivalent) children. As a result, these children heighten their attachment behaviors despite low threat of danger in the environment. In these relationships, children’s exploration is considerably compromised. For anxious-avoidant children, the picture is reversed; their caregivers are rejecting of their attachment needs, and as a result, avoidant children appear to spend more time exploring their environment than seeking comfort. However, one study using heart rate measures has shown that avoidant children have elevated heart rates during separation from their caregivers in the Strange Situation Procedure—despite *appearing* to be actively involved in play/exploration—suggesting that their attachment systems are not fully deactivated nor are their exploration systems fully activated when away from caregivers (Fox & Hane, 2008). Nonetheless, these children restrict their attachment behaviors, even in situations in which slight threat is present.

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Some infants experience fear much of the time in their relationships with their caregivers and this leads to the development of a fourth strategy that lacks organization; that is, infants with disorganized attachments have no coherent means by which they obtain their attachment-related needs (Lyons-Ruth & Jacobvitz, 2008). They experience an unsolvable paradox, in which the caregiver is sought in times of danger, yet the caregiver is often the source of that danger—the caregiver is either *frightening* to the infant or *frightened* of the infant; therefore, disorganized children experience the caregiver as a source of comfort, but also of fear. The anxiety that characterizes insecure attachments, and particularly those with a disorganized history, puts the child at risk for developing pathological forms of anger, sadness, and fear given the child's lack of confidence in the caregiver's availability (Kobak & Madsen, 2008). However, the symptomology associated with insecurity and attachment disorganization is likely to manifest itself differently according to what attachment-related needs the caregiver is comfortable with providing—either “keep[ing] children close or at distance” (George & Solomon, 2008, p. 837).

Through interactions with caregivers, children develop representations of relationships that provide children with expectations about the behavior of social partners, for oneself, and about how to interact with the social world (Bretherton & Munholland, 2008). Not only will these “internal working models” (Thompson, 2008, p. 349) influence the risk of children developing behavioral and clinical problems, but also how they interact with others, most notably, *their own* children and partners. Accordingly, the caregiver's internal working model or state of mind regarding attachment relationships will be an important influence on the child's developing attachment strategy (George & Solomon, 2008). Moreover, its most pronounced influence has been proposed to operate through mediating variables such as reflective functioning, or “the psychological capacity for understanding one's own mental states, thoughts,

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feelings, and intentions as well as those of the other” (Cooper et al., 2005, p. 137) and other empathy-related constructs (George & Solomon, 2008).

Internal working models are maps of the self and others that have been internalized as a set of expectations for behaviors and experiences in relationships—in essence, representations of attachment relationships (Bretherton & Munholland, 2008; Fonagy & Target, 1997). In as much as an understanding of the self must develop in the context of an other, so must the capacity for reflective functioning develop in the context of relationship. Moreover, in addition to the expectation that accurate and cohesive representations of attachment relationships (i.e., secure internal working models) engender security in children, it is speculated that secure internal working models do so through the capacity for reflective functioning. Despite one being much more broad and the other more specific, internal working models and reflective functioning as constructs are inherently intertwined; reflective functioning addresses a specific capacity, which some internal working models more readily support than others (e.g., secure versus disorganized). That is, a caregiver’s “capacity to understand the infant is rooted in the construction of coherent mental representations based on the parent’s own attachment history” (Fonagy, Steele, Steele, Moran, & Higgitt, 1991, p. 214).

In its most basic form, attachment theory posits that early experiences with attachment figures influence subsequent social and emotional development (Weinfeld et al., 2008). The quality of those experiences will differentiate children in their development of social and emotional capabilities. Repeated interactions with caregivers are internalized into a set of expectations about relationships and the social world, which are comprised into an internal working model (Thompson, 2008). Indeed, classification of adult state of mind regarding attachment is similar to that for infant attachment strategies: secure-autonomous (secure),

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dismissing (avoidant), preoccupied (resistant/ambivalent), and unresolved (disorganized; Hesse, 2008). Consequently, parents' internal working models shape emotional regulation and functioning (e.g., reflective functioning, empathy), which then influence caregiving for their own children.

Attachment researchers suggest that interventions should focus on enhancing security in early attachment relationships and address the caregiver's internal working model and parenting behaviors, as opposed to a focus on the child's attachment behaviors in isolation (Berlin, Zeanah, & Lieberman, 2008). As a means to adjust internal working models and behaviors, a major goal of treatment should include increasing awareness of the influence of one's own caregiving history, which can then enhance one's capacities for reflective functioning and empathic understanding of the child's needs. The process by which awareness is raised and emotional capabilities enhanced is through the caregiver's relationship with the intervention facilitator—arguably, “the engine of therapeutic change” (Berlin et al., 2008, p. 747)—and experiencing him or her (and depending on the intervention, the group) as a secure base from which to explore past and present caregiving interactions.

The proposition that early relationships between caregivers and children provide the foundation on which children's socio-emotional development occurs has been well established (Kerns, 2008). For this reason, interventions have been designed to enhance the quality of relationships between children and their caregivers. The COS parenting program is arguably the most derivative of attachment theory and aims to increase quality of relationships by means of enhancing attachment security in children through a focus on increasing relational capacities in the caregiver. Like many programs, the COS program views the caregiver as most capable of change, and therefore, the focus of intervention.

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### **The Transmission Gap: Reflective Functioning**

Reflective functioning has been identified as a key mechanism of change in interventions that focus on improving parent-child attachment relationships, such as in the COS program (Rosenblum, McDonough, Sameroff, & Muzik, 2008; Sharp & Fonagy, 2008). The construct of reflective functioning is the capacity to recognize internal mental states of oneself and of others (namely, children) as distinct and separate, and lays the foundation for the development of theory of mind and empathic responding in children. Several decades ago, attachment theory's founding father, John Bowlby, proposed that the quality of attachment relationships are passed down to subsequent generations, and later empirical research supported this claim (Berlin et al., 2008). Since then, developmental psychologists have attempted to find the mechanism for this transmission—what van IJzendoorn calls the “transmission gap” (Sharp & Fonagy, 2008; van IJzendoorn, 1995, p. 398). Reflective functioning has been identified as a crucial mechanism in transmission, with increasing evidence supporting this claim.

Early research attempting to elucidate the means by which attachment is transmitted from one generation to another primarily depended on observations of maternal sensitivity to explain the transmission (Belsky & Fearon, 2008; Fonagy & Target, 1997). One model suggested that parental state of mind regarding attachment underlies caregiving behaviors, which then influence the parent-child attachment (van IJzendoorn, 1995). Furthermore, a parent's internal working model exerts its influence on caregiving behaviors by “guiding” his or her interpretation of the child's needs and his or her (sensitive) response to those needs (Berlin et al., 2008). For instance, a secure-autonomous parent who is able to regulate, organize, and reflect upon his or her own thoughts and emotions concerning experiences with primary caregivers was thought to be able to sensitively respond to the child's needs for proximity, comfort, and support (Slade,

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Grienenberger, Bernbach, Levy, & Locker, 2005). Conversely, parents with an insecure state of mind with regard to attachment “would reject, overwhelm, or fail to regulate their children’s need for proximity” (p. 284). Thus, sensitivity in responsiveness was believed to directly influence the child’s attachment security, and served as the primary explanation for the transmission of attachment from parent to child.

Multiple studies have revealed the hypothesized association between parents’ attachment representations and their child’s attachment security (Slade et al., 2005; van IJzendoorn, 1995). Links were also found between a parent’s attachment representations and sensitive caregiving behaviors; moreover, sensitive caregiving was linked to the child’s attachment security (Berlin et al., 2008). However, taken together, studies using parental sensitivity as a mediator have found that sensitivity only accounts for about 23 percent of the variability in the relationship between the parent’s state of mind regarding attachment (as categorized by the adult attachment interview) and infant attachment style (Sharp & Fonagy, 2008). As a result, attachment researchers were confronted with the question of how to more fully explain the transmission gap, given its crucial importance to intervention programs (Belsky & Fearon, 2008).

Researchers began looking at the psychological functioning of caregivers to explain the ways in which attachment security is passed down from parents to children (Sharp & Fonagy, 2008). Initial responses to the question of the transmission gap were inspired by the concept of theory of mind, and more specifically, “mentalizing.” In essence, mentalizing refers to an individual’s “capacity to ascribe thoughts, feelings, ideas, and intentions to ourselves as well as to others, and to employ this capacity in order to anticipate and influence our own and others’ behavior” (Sharp & Fonagy, 2008, p. 738). For attachment researchers, mentalizing played a dual role in the transmission of parental attachment representations to children: the parent-child

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relationship influences both 1) child attachment security and 2) the child's socio-cognitive development through the parent's appropriate and accurate mentalizing of her child. In other words, attachment security is passed down from parent to child through her ability to accurately mentalize her child's experience, which in turn fosters the capacity for mentalizing in the child.

Attachment researchers have since adapted the mentalizing capacity to the context of the parent-child relationship, in which the construct of "reflective functioning" has taken its place (Sharp & Fonagy, 2008). When considered in the context of attachment relationships, reflective functioning refers to the "parent's capacity to reflect upon his/her own or the child's internal mental experience within the context of attachment style" (Sharp & Fonagy, 2008, p. 740). Additionally, a parent's ability to understand his or her child's behavior with regard to mental constructs gives the child's behavior meaning and predictability (Rosenblum et al., 2008). As a result, the parent's capacity for reflection of the child's thoughts, feelings, and intentions, as well as his or her own in meeting the child's needs, fosters the capacities for mentalizing and self-regulation as well as attachment security in the child. Therefore, reflective functioning has been identified as a crucial mechanism in explaining the transmission gap.

This meditational relationship is significant for two reasons: first, it suggests that past caregiving histories do not inevitably manifest themselves in present parenting; and secondly, that interventions that target reflective functioning may be able to break maladaptive transmission cycles. Reflective functioning allows the caregiver to be attuned to and emotionally understanding of the child's needs. Without such caregiver attunement and empathy, children do not receive the necessary experiences to establish reflective functioning and empathy themselves. For example, emotional distance between caregiver and child has been found to increase the child's own risk for child maltreatment perpetration as an adult (Okado & Azar, 2011).

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Therefore, improving the caregiver's reflective functioning and consequent ability to consider the child's needs should benefit the current parent-child relationship, as well as the child's future relationships. The identification of a mechanism of change will improve the understanding of the mental capacities of individuals who abuse and neglect their children, and as a result, provide an important means for prevention.

The reflective function provides the psychological underpinnings to parental sensitivity (Rosenblum et al., 2008). Parental sensitivity alone—as traditionally measured by the parent's level of acceptance, cooperation, appropriate and prompt responding, and positive affect (Grienenberger, Kelly, & Slade, 2005)—has proven insufficient in explaining the transmission gap, and therefore, a measure tapping into the psychological component of sensitivity is an important step forward in understanding the transmission of attachment style (van IJzendoorn, 1995). Moreover, since attachment relationships often involve intense and negative emotions, “any notion of the internal processes inherent to security of attachment and intergenerational transmission must include a consideration of the capacity to think about feelings and their relation to behavior” (Slade et al., 2005, p. 286). In order to address these concerns, a growing body of research in the area has investigated reflective functioning as a mediator explaining the relationship between parental internal working models and child attachment (Berlin et al., 2008).

Researchers have mostly depended on pre-existing interview formats to obtain a measure of a parent's capacity for reflective functioning (Slade, 2005). Fonagy and colleagues developed a scale to be used with the Adult Attachment Interview (AAI), in which responses to certain questions are coded on an 11-point scale, from ‘bizarre’ to ‘high reflective functioning,’ based on their capacity to reflect upon the feelings and intentions of their own primary caregivers and understand how those mental states are linked to behavior (Fonagy, Target, Steele, & Steele,



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1998). Initial research using data from the London Parent-Child Project sample showed considerable variability in reflective functioning, and found that parents classified as secure-autonomous on the AAI were more likely to be rated as high on reflective functioning (for mothers,  $M_{\text{reflective function}} = 5.87$  vs. 3.86 and 3.72 for insecure classifications with higher scores reflecting a greater capacity for reflective functioning) and to have an infant classified as secure in the Strange Situation Procedure at one year old ( $r = .51$  and  $.36$  for mothers and fathers, respectively; Fonagy et al., 1991). In contrast, parents who were rated low on reflective functioning were more likely to be classified as insecure with regard to attachment relationships and have children who were also insecure. Finally, reflective functioning had the strongest relationship with infant attachment style in comparison to any scale on the AAI (e.g., coherence, idealization). Moreover, when reflective functioning was statistically accounted for, the relationship between coherence of transcript and infant security was no longer significant.

Other work has attempted to code for reflective functioning using an interview that targets the parent's relationship with his or her children, namely the Parent Development Interview (PDI; Slade, 2005; Slade et al., 2005). The PDI is similar to the AAI in its attempt to measure internal representations of relationships. However, the PDI differs from the AAI in that it focuses on the parent's representations of the child, his or herself as a parent, and the parent-child relationship. Despite success in linking reflective functioning, as coded by the AAI, to parental attachment state of mind and infant attachment security, researchers believed that coding for the parent's capacity to reflect upon the psychological experience of the child, as well as his or her own as a parent, would be more meaningful to the study of intergenerational transmission than would the ability to reflect upon experiences with one's own parents. Therefore, Slade and her colleagues modified the scale Fonagy et al. (1998) created for use with

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the AAI, to be used with the PDI in order to address whether reflective functioning acts as a mediator in explaining the relationship between parent and child attachment.

In one study, forty first-time pregnant women were administered the AAI (in order to assess state of mind regarding attachment during pregnancy) and the PDI, which was coded for reflective functioning when the baby was ten months old (Slade et al., 2005). Additionally, mother-infant dyads participated in the Strange Situation when the infant was 14 months to classify infant attachment. Results revealed significant group differences on reflective functioning among all four ( $F = 6.460, p < .001$ ) and two (secure versus insecure;  $F = 13.164, p < .001$ , effect size = 1.01) adult attachment classifications; secure-autonomous mothers were significantly higher on reflective functioning than were dismissing, preoccupied, and unresolved mothers. That is, maternal attachment during pregnancy was highly predictive of reflective functioning after her baby's birth. Further ANOVA results revealed significant group differences among all four ( $F = 4.769, p < .01$ ) and two ( $F = 7.567, p < .01$ , effect size = .81) infant attachment categories on maternal reflective functioning; post-hoc analyses found that secure infants had mothers who were rated higher on reflective functioning than either resistant or disorganized children. Despite the low correlation between adult and infant attachment ( $r = .24$ ), a preliminary model was tested, in which maternal reflective functioning was the mediator. When maternal reflective functioning was entered as a mediator, there was no longer an (even weak) association between adult attachment and infant attachment. Thus, in this study using a small sample, reflective functioning accounted for the relationship between adult and infant attachment, displaying its potential utility as an explanation for the transmission gap.

Early experiences with caregivers provide the context by which children learn about their and other's mental states (i.e., thoughts, feelings, intentions) and how mental states are linked to

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behavior (Slade, 2005). A parent who is high in reflective functioning is able to “hold in...mind a representation of her child as having feelings, desires, and intentions [allowing] the child to discover his [sic] own internal experience via his mother’s representation of it” (Slade, 2005, p. 271). Further, it is the parent’s ability to monitor and recognize changes in his or her child’s mental state, and his or her ability to represent the child’s mental states, that is crucial to the child developing his or her own mentalizing capacities. Caregivers who have the capacity to regulate their own intense emotions are able to be with their children in their emotional experience as well as understand their children’s behavior with mental states in mind (Slade et al., 2005).

Caregivers who struggle to recognize and regulate their own intense emotions will experience difficulty fostering those capacities in their children (Slade et al., 2005). As a result of their inability to enter into another’s mental state, and to understand the other’s behavior in terms of underlying feelings, caregivers may be at risk for engaging in child maltreatment (Asawa et al., 2008). Given an incapacity for reflective functioning, some parents’ less sensitive responses to the child’s attachment signals (some of which may be more distressing to the parent than others) become reflexive. As a result, maltreated children’s development of affect regulation, empathic responding, and other mentalization capacities is compromised, potentially sustaining a cycle of intergenerational maltreatment (Fonagy, Gergely, & Target, 2005). For parent-child relationships in which maltreatment is taking place, the enhancement of reflective functioning should be an important focus.

### **Parental Coping with Children’s Negative Emotions**

Reflective functioning is an important target for intervention for multiple reasons, one of the most significant ones being that reflective functioning allows caregivers to respond in a

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nurturing, yet assertive, manner, particularly when their children are expressing negative affect (Rosenblum et al., 2008; Slade et al., 2005). While much research on coping with negative emotions has concerned children and the potential for coping to mitigate any detrimental consequences in the face of stressful situations, it is especially important to understand caregiver coping strategies, as caregivers are primarily responsible for helping their children regulate emotions early in life (Laible & Panfile, 2009). Caregivers with a capacity for reflective functioning are likely to have more adaptive strategies to cope with their children's negative emotions than those with limited capacities given that reflective caregivers will understand their children's behaviors in terms of needs and be able to respond accordingly, despite the aversive situation (e.g., tantrum, crying; Slade et al., 2005). Less reflective caregivers are likely to be overwhelmed by their children's intense negative affect and vulnerable to responding in less sensitive and appropriate ways.

While the research on reflective functioning with regard to caregivers' strategies to cope with their own or their children's negative emotions is limited, there is considerable research that suggests that the caregivers' coping style has a significant impact on children's social and emotional development (Fabes, Poulin, Eisenberg, & Madden-Derdich, 2002). For instance, when a parent becomes emotionally distressed him or herself, the child's negative affect is more likely to be perceived as aversive and something to be stopped or punished. Unfortunately, research has shown that parents' harsh reactions to children's negative emotions has been related to children's poor adjustment and compromised social functioning, as evidenced by limited social skills (Eisenberg, Fabes, & Murphy, 1996). On the other hand, mothers who reported using emotion-focused strategies to cope with their children's negative emotions had more prosocial and socially competent children.

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In essence, reflective functioning is an important contributor to caregiver-child relationships, and thus a target of intervention, because it likely enables caregivers to meet their children's needs, particularly when the child is distressed; that is, caregivers who reflect on the child's as well as *their own* emotional distress are likely better able to respond sensitively and appropriately to meet the child's need for comfort and help the child regulate his or her emotional distress. The child, in turn, will adapt similar coping strategies in negatively charged situations with future social partners to effectively regulate his or her negative emotion. Indeed, emotion regulation is crucial to success in relationships and coping with stressful life situations, more or less of which will be faced by every child (Laible & Panfile, 2009).

### **The Circle of Security Parenting DVD Program**

The call for interventions in response to the astounding rates of child maltreatment has resulted in an array of options for use with mental health professionals working with families (Daro & McCurdy, 2007; Marvin et al., 2002). The Circle of Security Parenting DVD Program (henceforth, called COS; Cooper, Hoffman, & Powell, 2009), along with other attachment-based interventions, focuses on improving the parent-child relationship, which is believed to occur by enhancing relational capacities in the parent (Berlin et al., 2008). Many of these interventions focus on altering internal working models or increasing parental sensitivity, while fewer focus specifically on enhancing parents' relational capacities, such as reflective functioning. In accordance with other programs, the COS perceives the caregiver as most capable of change—not the child—and thus, focuses on improving his/her capabilities in order to facilitate parent-child relationship enhancement. However, unlike many other interventions that focus on sensitivity or internal working models, the COS and COS DVD interventions view reflective functioning as the primary mechanism of change in enhancing parent-child attachments.

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Several interventions, within and outside the attachment paradigm, currently exist that focus on reducing child maltreatment, a few of which are Parents as Teachers (Wagner & Clayton, 1999), Incredible Years Parenting Skills Training (Reid, Webster-Stratton, & Baydar, 2004), Parent-Child Interaction Therapy (PCIT; Chaffin et al., 2004), and child- (or infant-) parent psychotherapy (Cicchetti, Rogosch, & Toth, 2006). The Parents as Teachers program can begin as early as pregnancy and involves several home visitations in a year by parent educators who aim to enhance the parent's knowledge of child development and their parenting skills, which includes preparing their children for achievement in school. The Incredible Years Parenting Skills Training program focuses specifically on eliminating externalizing symptoms in young children; the program instructs and reinforces parents "to use child-directed play skills, positive and consistent discipline strategies, strategies for coping with stress, and ways to strengthen children's social skills" (Reid et al., 2004, pp. 280-281). The program lasts at least 14 weeks and up to 24 weeks. This program is notable, as it has been identified as a "well-established" intervention in reducing children's externalizing behaviors (Menting, Orobio de Castro, & Matthys, 2013). Similarly, PCIT is also considered well-established in reducing children's oppositional and externalizing behaviors, and has been successful in minimizing child maltreatment and its reoccurrence (Hakman, Chaffin, Funderburk, & Silovsky, 2009). Child-parent psychotherapy (CPP) is quite intensive in that it involves dyadic therapy sessions with trained therapists in the home for several months; the goal is to modify the parent's internal representation of the self and of others with whom they are in relationship (i.e., internal working model) to increase sensitivity, attunement, and responsiveness, and in turn, enhance attachment security in the child.

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Like CPP, the COS parenting program is also derived from attachment theory, and aims to enhance attachment security in parent-child relationships (Marvin et al., 2002). The relationship-based program views the caregiver as most capable of change, and therefore, focuses on strengthening relational capacities in the caregiver—namely, reflective functioning. The COS consists of a 20-week, intensive intervention program conducted in groups of five or six caregivers (Cooper, Hoffman, Powell, & Marvin, 2005; Marvin et al., 2002). Through development of specific relationship capacities, such as reflective functioning and empathy for the child, caregivers increase their understanding of their children's needs, and as a consequence, provide both a secure base from which the child can explore and a safe haven to which he or she can return when needed. Both the CPP and COS interventions have some empirical support.

Despite supportive evidence, these interventions are considerably intensive and time-consuming, and thus require considerable commitment and motivation from participants. For instance, child-parent psychotherapy involves transforming the parent's internal working models, which can take a substantial amount of time (Berlin et al., 2008). Moreover, the intervention targets only one parent-child dyad at a time, and as a result, may not have the supply to meet the demand. On the other hand, the COS parenting program does not generate such a problem, as *groups* of parents participate in the intervention together, and so a larger number of parents can participate at one time. Still, the COS program is also intensive, lasting 20 weeks with weekly sessions lasting approximately 2 hours, and therefore, is not the best solution for interventionists who are trying to provide services to many caregivers. It also involves videotaping parents with their children and reviewing those videos in group sessions, which is a costly component of the program. As noted earlier, the originators of the COS program have modified the original to

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make the intervention much more accessible and available to a greater amount of caregivers, which could potentially meet the demand that is evident in the high incidence of maltreatment.

The creators modified the original 20-week program into an 8-week program by using an educational DVD with parents and caregivers. The program consists of 8 weeks of sessions guided by the DVD and one or more trained group facilitators, who are often paraprofessionals, and is conducted in groups that contain 5 to 10 members (Hoffman et al., 2006; Marvin et al., 2002). The COS intervention was originally developed for work with at-risk caregivers and their children in order to change current patterns of caregiver-child interactions to more adaptive forms of relating (Marvin et al., 2002). However, the intervention has since been expanded to lower risk populations, such as those who are community-referred.

The opening four weeks of the program introduce caregivers to an elementary version of attachment theory made understandable by the educational DVD that contains video excerpts of children exhibiting attachment and exploration needs, as shown on the COS graphic (see Figure 1), to which caregivers are exposed throughout the program (Cooper et al., 2009; Cooper et al., 2005; Hoffman et al., 2006). The graphic represents every child's "Circle" with each caregiver, who is represented as the "Hands" on the Circle; it explains that when the attachment system is activated, exploration ceases, but once comforted by contact with the caregiver, the child will return to exploration and the attachment system will return to deactivation (Marvin et al., 2002). Throughout the program the graphic is used as a reference for the caregivers as they review video examples of parent-child interactions and consider their experiences with their own children. Additionally, the graphic is used to strengthen caregivers' observational and inferential skills, or "Seeing and Guessing." Throughout the program, parents watch video clips of interactions between parents and their children; facilitators challenge parents to identify specific



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behaviors and guess whether the child is on the top (exploration) or bottom (comfort) of the Circle, and also the specific need underlying that behavior. For example, after watching an interaction in which a child is crying as the father re-enters the room after being absent for a few minutes, a caregiver may suggest that the child is on the bottom of the Circle and needs comfort and help organizing his feelings.

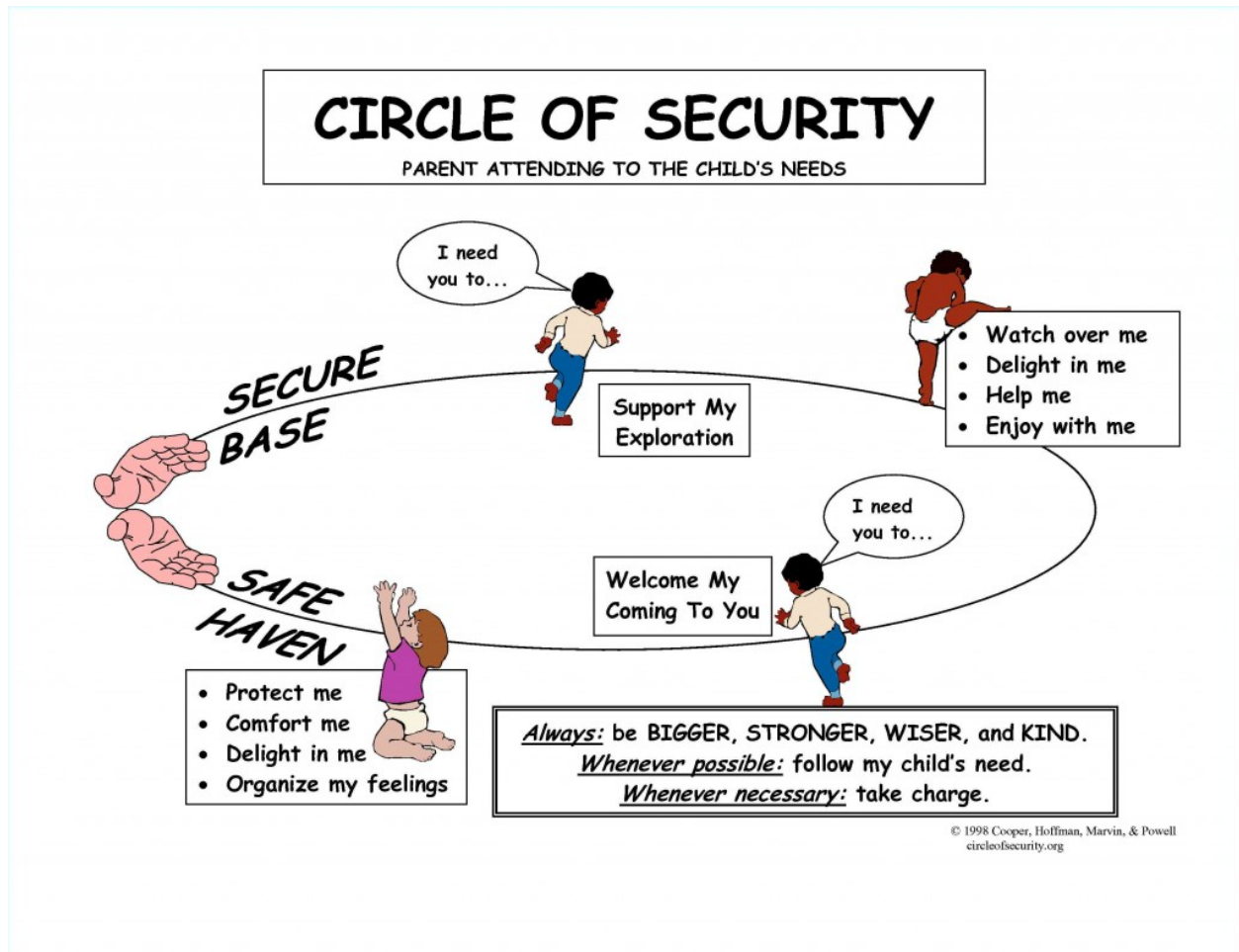


Figure 1. Circle of Security Graphic

A key activity to the program, which occurs in the third session, asks caregivers to reflect about their own experiences as children with their parents and think about those emotions that their parents were more comfortable experiencing with them, or in terms of reflective

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functioning, able to *hold* (Cooper et al., 2009). This activity is carried out with a handout illustrating a circle that prompts caregivers to place emotions in, partially in, or outside the circle. Emotions placed inside the circle represent emotions their caregivers were fully comfortable experiencing with them; emotions placed partially inside the circle represented those their caregivers were occasionally able to experience with them; and finally emotions placed outside the circle represented those the caregivers were not comfortable experiencing with them. For instance, one caregiver may remember her mother as being able to share in her joy and fear, but unable to share in her shame, anger, and sadness. After the activity is completed using their own childhood as a reference, caregivers are invited to think about whether their parent's comfort or discomfort with certain emotions mirrors their own comfort or discomfort with their own children's emotions. Therefore, the activity is used to relate experiences from their own childhood with current caregiving practices with their own child, in order to facilitate reflection as to how one's mental states—grounded in past relationships—may influence present parenting behaviors. Through this recognition of strengths and limitations, caregivers increase their ability to reflect on a problem area in their attachment-caregiving interactions (Cooper et al., 2005). The change in reflective functioning is expected to, in turn, result in an enhancement of the parent-child attachment relationship.

In the fifth session, after caregivers have been presented the key concepts on the Circle, the program continues to challenge caregivers to explore their struggles with their child and focuses caregivers inward to examine how past experiences exert influence on current relationships in the form of “Shark Music” (Cooper et al., 2009; Marvin et al., 2002, p. 112). Shark Music is an apt label for uncomfortable feelings that arise when the child expresses a certain feeling (e.g., anger) or need (e.g., comfort), potentially related to the caregiver's past

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experiences with their own primary caregivers. Additionally, the pathway to a secure parent-child attachment is revealed, in which caregivers learn that self-reflection is a crucial step. That is, a caregiver's willingness to acknowledge his or her Shark Music and reflect on that discomfort allows him or her to meet his or her child's needs all around the Circle—including those that trigger negative emotions—and thus, foster emotional security within the child. With handouts as references, caregivers are asked to think about where on the Circle they struggle most (i.e., tend to hear their Shark Music), in order to facilitate recognition of their strengths and struggles in meeting their child's needs all around the Circle. For example, one caregiver may struggle to support her child's exploration, as evidenced by the statement, "I feel like he doesn't like me when he crawls away from me." In contrast, another caregiver may struggle providing comfort to her child in times of distress: "She just wants attention when she starts crying."

The sixth chapter is dedicated to disorganized attachment relationships and the means by which disorganization may arise. A key component of this chapter emphasizes the parents' role as the Hands on the child's Circle and the notion of being "Bigger, Stronger, Wiser, and Kind"—that is, parents must remember that they are the bigger and stronger individuals in the relationship, but also that they need wisdom to keep bigger and stronger in balance with kindness. For example, bigger and stronger without kindness is perceived as mean, whereas kind without bigger and stronger is weak. Both are illustrated as frightening to the child—a significant predictor of attachment disorganization (Lyons-Ruth & Jacobvitz, 2008). Therefore, the DVD illustrates the need for balance in order for children to feel secure in their relationship with caregivers. Further, the DVD discusses how choosing romantic partners over children, substance abuse, and depression can result in the parent being "gone" from the relationship or

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stepping off the child's Circle, which is also frightening to children, and thus, heightens the risk for attachment disorganization.

The final core chapter of the program (the eighth session does not present new information) discusses the reason most parents go to parenting classes: what to do when their child misbehaves (Cooper et al., 2009). However, unlike behavior management interventions, the COS does not suggest techniques, but proposes that the solution is the parent-child relationship. A crucial part of a warm and supportive parent-child relationship is repair; when the parent steps off the Circle by being mean or weak, for example—possibly because of discomfort triggered by the need expressed by the child—a rupture in the relationship has occurred and must be repaired. The DVD states that acting out is not the child's first choice of behavior, but is using misbehavior to communicate a need. While many programs would suggest a time out for misbehaving children, the COS suggests the use of "Time Ins" for children and time outs for parents, in which caregivers can calm themselves before reacting to their child's misbehavior. As for the child, once the caregiver has composed him or herself, a Time In involves the parent staying with the child in order to help organize feelings, put words to feelings, and help soothe the child. Using Time Ins with children re-establishes the parent on the child's Circle.

The program ends with a summary and celebration of completion (Cooper et al., 2009). Caregivers are invited to reflect on their experience in the COS program, and think about those concepts that will be most helpful for them in their relationships. Finally, caregivers receive a certificate congratulating them for their successful completion of the program.

Currently, the less intensive, 8-week DVD program is becoming an increasingly used education program for parents who have lost custody, or are at risk of losing custody of their

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children, (i.e., parents who are involved with CFS or CPS). A small, but significant proportion of children reported for abuse or neglect find themselves in out-of-home placements (Frame, 2002). A growing number of these are infants and young children, as they comprise a group that is particularly vulnerable to maltreatment. Not only is this disruptive to the parent-child relationship, but also may require assistance from extended family, foster parents, and youth homes. Furthermore, if the caregiver-child relationship remains ruptured, the chances for detrimental developmental outcomes are amplified as evidenced by the extensive attachment literature linking insecure attachment to non-optimal trajectories (Deklyen & Greenberg, 2008). Given the cost of child removal both to parent-child relationships and the agencies involved with placement, supervised visits, and reunification, it is imperative that interventionists use programs that minimize this cost as well as reduce the risk for recurring involvement with child welfare agencies. The COS DVD program may be one such cost-efficient alternative, as it is relatively brief, conducted in groups, and can be facilitated by trained individuals without professional degrees, and thus, offers a considerable advantage over other parenting approaches.

Initial research using the 20-week COS program has been supportive of the intervention's efficacy (Berlin et al., 2008; Hoffman et al., 2006; Marvin et al., 2002; Page & Cain, 2009). However, due to recruitment constraints, lack of randomized clinical trials, and a reliance on case studies, the program has yet to be identified as a well-supported intervention. Moreover, the complete absence of research regarding the DVD version necessitates study on the effectiveness of its application. Despite these limitations, research to date supports the original COS program's potential to enhance caregiver-child relationships.

The COS program's effectiveness has been supported by findings from a protocol-development study with 65 toddlers and preschoolers (Hoffman et al., 2006). The caregiver-

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toddler/preschooler dyads were recruited from Washington State Head Start and Early Head Start programs; all were low-income, average functioning, and included mothers, fathers, foster parents, and a grandparent. Using a pre-post design with no comparison group, participants were assessed 6 to 8 weeks before the intervention and then again at roughly 10 days after the final session (or week 20); the Strange Situation Procedure was used to measure child attachment classification. In accordance with the hypothesized transitions, analyses revealed that more pre-intervention disorganized children moved to a post-intervention organized attachment classification (69%) than did organized children shift to disorganized (15%). Additionally, approximately 44% of the insecurely attached children at the pre-intervention assessment moved to a secure classification after the program; whereas, less than 8% of the secure children shifted to an insecure classification. Although results reveal some iatrogenic effects given the percentage of secure or organized children that moved to an insecure or disorganized classification, many more children moved from disorganized to organized and from insecure to secure, suggesting that the program is likely more helpful than harmful.

Marvin and the other COS originators (2002) conducted a case study of one mother-child dyad that went through the program, both of whom were classified as disorganized with the mother scoring high on the role-reversal and flat affect scales. Following completion of the COS program, the dyad participated in the post-intervention assessment two weeks following the final session. The child was coded as securely attached with some ongoing disorganized behaviors; the mother exhibited decreases in role-reversal and flat affect, and was classified as organized on the border of secure-autonomous and dismissing. Similarly, a case study of a young woman's experience offered support for the effectiveness of the COS program (Page & Cain, 2009). In the pre-intervention assessment (i.e., the Strange Situation Procedure), the child was unable to

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withstand separation from the mother, and therefore, the stranger was brought in early; in the post-intervention assessment, the child was distressed upon separation, but was able to calm himself enough to sit quietly on the couch. In addition, over time, the mother was better able to grasp and understand the emotional experience of the child, which manifested in her increased ability to comfort her child.

The intervention has also been used with pregnant women in the context of a jail-diversion program (Cassidy, Ziv, Stupica, Sherman, Butler et al., 2010). A sample of pregnant offenders (n=20) participated in the COS Perinatal Protocol, which is specifically for use with parents of infants. A lack of control group required data to be compared to current patterns of attachment in low- and high-risk populations. The COS program for the study was even more intensive than the original; mothers met twice weekly from their third trimester until the infants' first birthdays. The research team found that the proportion of secure attachments for mothers in the present study were not significantly different from a low-risk comparison. Similarly, the proportion of secure attachment was higher than has been found in depressed, low SES, substance-abusing, and maltreating samples. Results reveal the substantial impact of an attachment-based, group intervention on parents who are likely to engage in behavior that could put their children at risk of neglect or abuse.

Given these findings regarding the more intensive, 20-week program, it was anticipated that the 8-week alternative COS DVD parenting program would have similar influences on attachment relationships between caregivers and their children. The DVD program has become a widely used intervention by service providers, yet no evidence exists for its effectiveness, and without empirical support of its utility, the DVD program's application remains questionable.

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A critical barrier to minimizing child maltreatment is the continued lack of empirical evidence for many interventions used with parents (Daro & McCurdy, 2007). An important component in establishing an evidence base for a given intervention involves studies using a randomized control trial design that allow for significant comparisons and causal conclusions. For the COS and COS DVD programs, this is a major limitation of its recognition as an evidence-based program.

### **Method**

The purpose of the present project was to examine the effectiveness of the COS DVD parenting program. In order to do so, a quasi-randomized crossover design was used (Murray, 2008) to test the extent to which the brief COS DVD program influenced participants' experiences in the parent-child relationship and reports of parenting practices compared to those that have not yet participated in the program. In this design, all participants took part in both the intervention and 'control' conditions, with approximately half the sample participating in the intervention first and the 'control' condition second, and the other half participating in the control condition first and the intervention condition second. Figure 2 portrays the design.

As noted before, the less intensive DVD program is increasingly used with parents who have lost custody or are at risk of losing custody of their children. CFS-referred caregivers offer a unique population in which to examine the effectiveness of a shorter, DVD version of the COS protocol, as many must adhere to deadlines for 'treatment plan' completion within a brief time period. Moreover, many caregivers involved with CFS have experienced non-optimal parenting themselves, and thus, have not had reliable models of "good enough" parenting, leaving them unprepared to foster a quality relationship with their child (Zuravin et al., 1996). This research



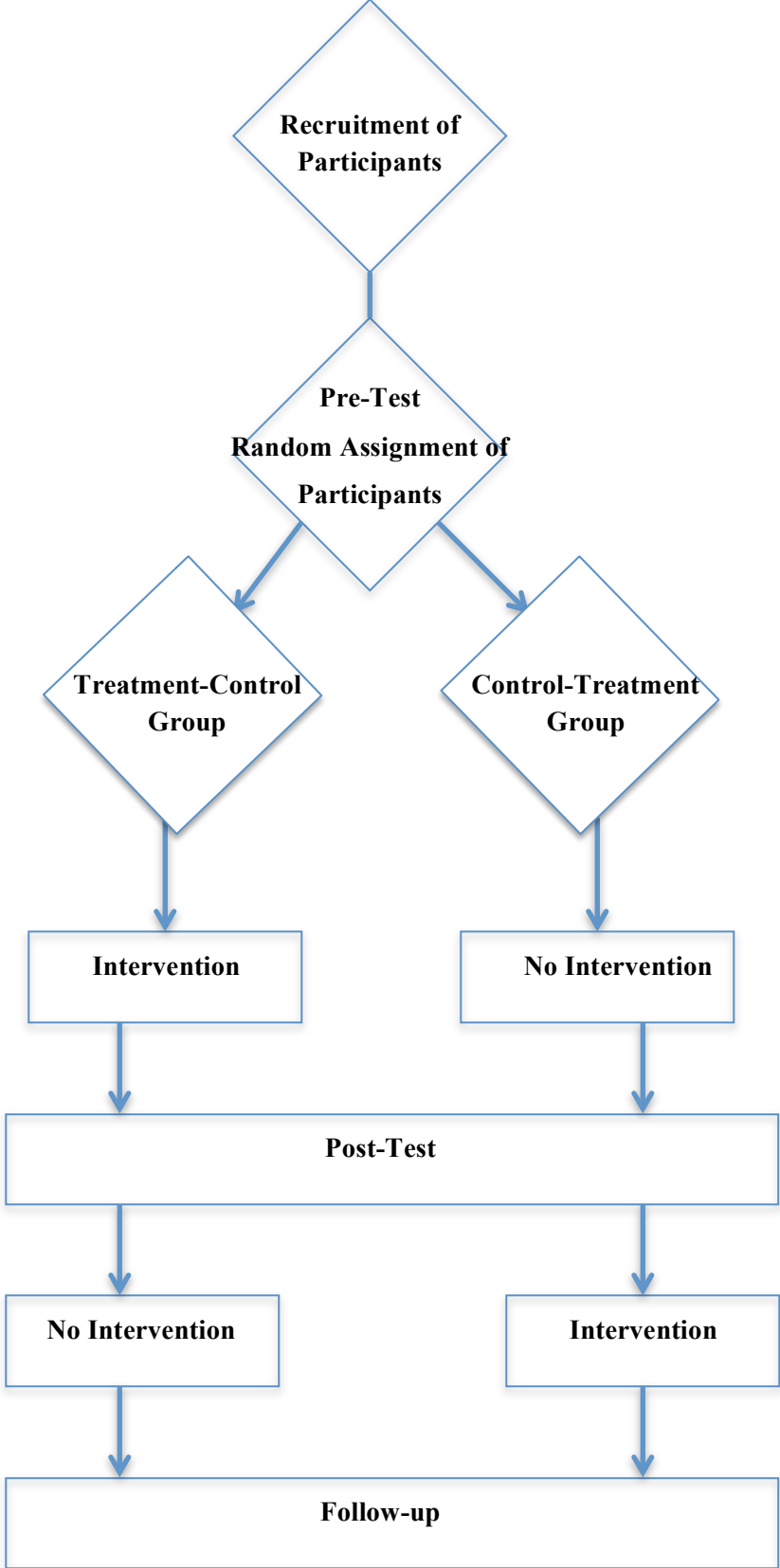


Figure 2. Randomized Crossover Design

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was designed to examine whether the COS DVD program resulted in significant changes in parenting and enhanced participants' relationships with their children in a lower income sample that included caregivers who were involved with a child welfare agency.

### **Collaboration Sites**

This research was conducted in collaboration with two local agencies that primarily provide services to lower income families. The agencies offer services such as supervised parent-child visits, parent education, parenting interventions, and child services to those in need of such support. Evolution Services is a service agency located in Missoula, Montana that delivers services to families and children and has connections with the court and other mental health facilities that refer parents to their services. The agency offers COS DVD parenting classes to parents—primarily to those involved with a child welfare agency. It employs a few individuals as well as a couple of unpaid graduate students who have been trained and certified to facilitate the program. Evolution Services is based in a large house where COS DVD groups, as well as supervised visits, substance abuse classes, and parent coaching take place, primarily in order to facilitate family reunification.

The second collaboration site was Missoula Head Start (MHS), which provides services to low-income parents and families with young children. In addition to services provided for children, parents are educated about child development, health, safety, and nutrition, as well as offered opportunities to be involved with the program, other social services, and the community. Both Evolution Services and Missoula Head Start assisted in recruitment of participants and provided facilities at which group sessions were held.

### **Participants**

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Participants ( $N = 37$ ) were recruited from Head Start programs, the community, and Evolution Services (ES), and included caregivers referred by CFS who may have been court-mandated to participate in the program and/or temporarily lost custody of their children. All had at least one child younger than 10 years old and were the child's primary caregiver. Recruitment flyers were posted at Head Start facilities that outlined the study and incentives to participants, and provided a contact email and phone number for interested parents. They were also distributed to parents at several Head Start events, at which time parents could also sign up to participate. Given the low numbers recruited from the agencies, an advertisement was also posted on Craigslist to recruit parents who were not involved with either agency; this strategy yielded a significant number of participants. Finally, a small number of participants ( $n = 3$ ) were recruited from a local group home that provides residential services to women struggling with substance abuse and their children. The final sample included far fewer participants than was originally planned ( $N = 54$ ), as participant recruitment was incredibly challenging given the few parents that attended Head Start events or followed up for participation, as well as the rate of attrition, which was slightly higher than expected (52%).

The average age of all participants who completed the first assessment ( $N = 79$ ) was 31.78 years ( $SD = 9.04$ ); at the third assessment ( $N = 37$ ), the average age increased to 32.45 years ( $SD = 10.27$ ). At both time points, most participants were female (79.2% and 81.6%, respectively) and White (85.5%). Equal portions of the initial sample were married or in a steady dating relationship (31.2%); 22.1% were single. Slightly more were married or in a steady dating relationship in the final sample (36.8% and 31.6%, respectively), as well as single (26.3%). There was considerable variability in education; most participants in the initial and final samples had obtained a high school degree/GED (29.5% and 26.3%, respectively) or

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attended some college (29.5% and 39.5%, respectively). Half of the sample's romantic partners had obtained a high school degree/GED or attended some college, which increased to 65.2% in the final sample. A large percentage of the sample was unemployed at the initial assessment (42.9%) as well as the last (44.7%); fewer romantic partners were unemployed at each anchoring time point (30.6% and 33.3%, respectively). There was considerably more variability for the initial sample in average household income, with 80% falling below \$40,000 and 9% reporting incomes greater than \$60,000; somewhat more of the final sample was below \$40,000 (81.6%) and no participants reported higher incomes (i.e., > \$60,000).

At both the initial and final assessments, a majority of the participants reported living with their romantic partner (54.0% and 78.6%). A small percentage (15.6%) of participants did not have any children living with them at the first wave of data collection, which decreased to 10.8% in the final sample, mainly due to the attrition of individuals who did not have children living with them at the first wave of data collection. In addition, most participants in both the initial and final samples were the biological parent of the child on whom the program focused (87.0% and 81.1%, respectively). The average number of children for whom the participant was the legal parent for the initial and final samples was 2.17 (SD = 1.58) and 2.26 (SD = 1.77), respectively; the average age of the child who was the focus of the group was 3.20 (SD = 2.17) years at the first assessment and 3.57 (SD = 1.96) years at the final one. Fewer participants in the initial sample (36.4%) had been investigated by CFS/CPS than in the final sample (40.5%), which can likely be explained by the fact that multiple foster parents involved with CFS/CPS for reasons other than child maltreatment remained in the final sample. Finally, most participants had not participated in a COS class before (89.7%). See Table 1 at the end of the paper for descriptive statistics across time points.

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There were very few statistically significant differences between those who completed the COS DVD course and all waves of assessments, and those who ceased participation. Caregivers who dropped out were more likely to have older children on whom the group focused than those who completed the study (3.72 vs. 2.67 years, respectively;  $t(64) = -2.114, p = .038$ ). Additionally, those who dropped out were less likely to be living with a romantic partner at the beginning of the study than their counterparts who completed the study ( $t[61] = 2.166, p = .034$ ).

Once participants consented to participation, each participant was assigned an identification number to maintain confidentiality as well as to track participants from one wave of assessments to the other. Given the crossover design, *most* participants (all were community-referred) were randomly assigned to one of two orders of conditions: intervention first, followed by a period of no intervention or, the reverse, no intervention followed by participation in the intervention. Specifically, 16 participants began the program immediately (Treatment-Control group); the second group included 13 participants assigned to a Control-Treatment group in which they waited eight to ten weeks before starting the COS program. Parents involved with CFS and the residential program ( $n = 8$ ) were unable to be randomly assigned given a timeline to which they had to adhere, and thus, had to participate in the intervention immediately. Therefore, this subsample will be considered part of the Treatment-Control group and as an independent group in analyses where noted. Participants attended sessions and data collection appointments at the sites at which they were recruited; caregivers recruited through the Head Start agencies and Craigslist attended sessions at the Missoula Head Start building.

### **Incentives**

Both Treatment-Control and Control-Treatment participants were given incentives for their participation in the program and waves of assessments. To maintain the integrity of the

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program, caregivers were required to participate in the *original* sessions—that is, sessions with the group—in order to receive the full incentive. Participants were allowed to miss one original class, but were required to arrange a make-up session to be completed with the group facilitator prior to the next class. For example, if a participant missed the third week of class, she or he was required to review that chapter before participating in the fourth week’s group. Caregivers (n = 34) who attended *at least 7 original* sessions (out of 8 possible), as well as in *all* waves of assessments, were given \$75 for their participation; caregivers (n = 3) who did not participate in at least 7 original sessions, but did complete the course (i.e., through participating in more than one make-up) and all three wave of assessments were given \$25. In addition, weekly raffles were held at each group session that awarded a gas, restaurant, or grocery gift card to one attending participant.

### **Instruments**

Several instruments were employed to assess participants’ perceptions of early relationships with primary caregivers; state of mind regarding close romantic relationships; parent-child relationship characteristics; strategies for coping with negative emotions; and most relevant, caregivers’ capacity for reflective functioning (see full questionnaires in Appendices).

**Parental Acceptance and Rejection.** The *Parental Acceptance and Rejection Questionnaire* (PARQ; Rohner & Khaleque, 2005) assessed caregiver recollections of maternal and paternal acceptance or rejection. Its inclusion provides a measure of the caregiver’s relationship with his or her own primary caregivers. Two scales make up the PARQ: warmth/acceptance and hostility/neglect/rejection. The PARQ is composed of 24 statements about past experiences of parental caregiving. Responders indicate the extent to which each statement is an accurate depiction of their early relationships, from 1 (Almost always true) to 4

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(Almost never true). The hostility/neglect/rejection scale was combined with the reverse-scored warmth scale to produce a total acceptance-rejection score; the potential maximum score was 96. Higher scores indicated greater perceived parental rejection and less warmth. The maternal scale had a reliability of .66 for the current sample, while the Cronbach's alpha for the paternal scale was .67.

**Experiences in Close Relationships.** The *Experiences in Close Relationships-Revised* questionnaire (ECR-R; Fraley, Waller, & Brennan, 2000) inquires about the responder's comfort with closeness and intimacy in attachment relationships as well as the extent to which responders are anxious about being rejected or abandoned—essentially, the ECR-R is an assessment of state of mind regarding attachment relationships with romantic partners. The ECR-R is included in order to compare groups with regard to attachment representations. The two subscales—avoidance and anxiety—each comprise 18 questions to which participants respond on a Likert scale ranging from 1 (Strongly disagree) to 7 (Strongly agree). Higher mean scores (maximum score of 7) on each subscale indicate greater anxiety and avoidance in attachment relationships. The anxiety and avoidance subscales each had a reliability calculated at .94.

**Parent-Child Relationship Characteristics.** Quality of parent-child relationship was examined using the *Parent-Child Relationship Inventory* (PCRI; Gerard, 1994). The PCRI contains several subscales of interest: 1) Parental support; 2) Satisfaction with parenting; 3) Involvement; 4) Communication; 5) Limit setting; and 6) Autonomy. These scales yield a general impression of the quality of the parent-child relationship while simultaneously providing a quantified depiction of each of the relationship's characteristics. The questionnaire is comprised of 78 questions, to which respondents are asked to indicate the extent to which they agree with a given statement about parenting, the parent-child relationship, or their child on a 4-

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point Likert scale ranging from 1 (Strongly agree) to 4 (Strongly disagree). Lower scores on each subscale indicated possible problems in that area of the parent-child relationship. Internal reliability for the current sample was .89.

**Coping with Children's Negative Emotions.** The *Coping with Children's Negative Emotions Scale* (CCNES; Fabes, Eisenberg, & Bernzweig, 1990) measures the extent to which parents perceive they can cope with their children's negative affective states (e.g., anger, sadness, shame) in distressing situations. The CCNES was included to assess participants' ability to help regulate their children's negative emotions before and after participation in the COS program. There are six subscales that make up the CCNES: 1) Distress Reactions indicate the extent to which participants experience distress in response to their children's negative affect; 2) Punitive Reactions assess participant's likelihood of responding punitively as to decrease their need to cope with the negative emotion; 3) Expressive Encouragement reflects the degree to which participants encourage and validate their children's expression of negative affect; 4) Emotion-Focused Reactions indicate the extent to which participants use strategies to soothe the child; 5) Problem-Focused Reactions reflect the degree to which participants help children solve the distressing problem; and 6) Minimization Reactions assess the extent to which participants minimize the seriousness of the situation or diminish the child's distressful reaction. Participants are prompted to indicate the extent to which they would endorse each reaction in a give situation (e.g., "If my child falls off his/her bike and breaks it, and then gets upset and cries, I would remain calm and not let myself get anxious") on a 7-point Likert scale, from 1 (Very unlikely) to 7 (Very likely). Higher mean scores on each subscale indicated parents' typical reaction to their child's negative affect in a given distressful situation. Cronbach's alpha for the current sample was calculated at .79.



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**Parental Reflective Functioning.** Reflective functioning was examined using the *Parental Reflective Functioning Questionnaire-1* (PRFQ-1; Luyten, Mayes, Sadler, Fonagy, Nicholls, et al., 2009; Luyten, Mayes, & Nijssens, 2009); the survey assesses the caregiver's capacity to attribute internal affective states (e.g., thoughts, feelings, and emotion) to oneself and one's child. The target age range (0-3 years) may be young for some parents, but the authors noted that "ultimately, it is an empirical question whether the PRFQ-1 is valid in children above the age of 3" (Luyten, et al., 2009, p. 3). Sample questions include "My child and I can feel differently about the same thing" and "How I am feeling can affect how I understand my child's behavior." Participants endorsed their agreement to each statement on a 7-point, Likert scale from 1 (Strongly disagree) to 7 (Strongly Agree). A High-Low scale (high scores indicate high levels of parental reflective functioning), a Low-High scale (items are reverse-scored), and a Middle scale (scores in the middle indicate high levels of reflective functioning) were combined to calculate a total score. Higher mean scores indicate higher levels of parental reflective functioning. In addition, the PRFQ-1 contains three subscales: Pre-Mentalizing Modes, on which higher mean scores indicate a participant's struggle to understand and interpret the child's mental experience accurately ("I find it hard to actively participate in make believe play with my child"); Certainty of Mental States, which measures the extent to which participants feel confident in their knowledge about the child's feelings, thoughts, and intentions ("I can sometimes misunderstand the reactions of my child"); and Interest and Curiosity in Mental States, indicates level of interest in thinking about the child's internal experience and in taking the child's perspective ("I am often curious to find out how my child feels").

While there are other methods to measure reflective functioning, they are costly and time-consuming. For example, Fonagy et al. (1998) created a Reflective Functioning scale to code

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AAI's, which are inherently time-consuming. A self-report measure, however, facilitates research on the construct of reflective functioning, and thus, was used to quickly assess participants. Although this survey is in the early phases of establishment, it shows promise for research on reflective functioning (Luyten et al., 2009). The current study had an internal reliability of .68.

**Substance Use.** The *CAGE-Adapted to Include Drugs* (CAGE-AID; Brown & Rounds, 1995) was used to assess substance use. It includes four questions that inquire about how participants, as well as others, feel about their own drinking and drug use. Each question is answered with a "Yes" or a "No," with positive answers given one point for a possible maximum score of four, and anything above a point indicating a possible problem. The measure has established a 79% sensitivity score and 77% specificity score. Reliability for the current sample was calculated at .86.

**Depressive Symptoms.** The *Patient Health Questionnaire-8* (PHQ-8; Kroenke, Strine, Spitzer, Williams, Berry, & Mokdad, 2009) was included to assess participants' depressive symptoms preceding and following the intervention. The PHQ-8 includes eight items based on eight of the nine criteria for a diagnosis of depressive disorders in the DSM-IV. The ninth criterion addresses suicidality. The authors report that the removal of the ninth item has a minor influence on scoring as thoughts of suicide and self-harm are rather rare in the general population, and moreover, the ninth item is "by far the least frequently endorsed item on the PHQ-9" (Kroenke et al., p. 165). Participants are prompted to respond how often they have been bothered by various problems in the past two weeks, such as "Little interest or pleasure in doing things" and "Poor appetite or overeating," rated on a Likert scale from 0 (Not at all) to 3 (Nearly everyday). Higher scores indicate the presence of more depressive symptoms, with a maximum

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score of 24, and scores above 10 considered major depression. The internal reliability for the current sample was calculated at .89.

**Barriers to Treatment Participation.** Finally, the short version of the *Barriers to Treatment Participation Scale* (BTPS; Colonna-Pydyn, Gjesfjeld, & Greeno, 2007) was used to identify factors that contribute to program dropout. The BTPS was delivered in the fourth session to participants in the intervention condition, allowing caregivers to acquaint themselves with the program before reporting on challenges in attending group sessions. The 20 items of the BTPS are rated on a 5-point Likert scale from 1 (Never a problem) to 5 (Very often a problem). Sample questions include “I did not like the therapist” and “My job got in the way of coming to a session.” Two questions were not used as they are not relevant to the intervention under study: “My child had trouble understanding treatment” and “The therapist did not seem confident that treatment would work for my child.” The current sample had an internal reliability of .74.

**Demographics.** A brief demographic survey was also used. The survey inquired about participant age, gender, relationship status, number of children and their ages, and participant’s and romantic partner’s education and income. It also inquired about the participant’s relationship to the child (e.g., biological parent), other services the family was receiving/had received, and if she/he had ever been involved with CFS or CPS.

### **Procedure**

In order to test the effectiveness of the DVD program, the current study employed a quasi-randomized crossover design with a waitlist control group. A deficiency in the existing literature concerning the efficacy of the original 20-week COS program is that there is no study that uses a randomized control trial design (Powell et al., 2009). An even bigger deficiency for the modified DVD program is a lack of rigorous study of its benefit or harm. This project aimed

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to help fill that gap by employing randomization in assigning community-referred participants to conditions.

Once 15 or more participants were recruited to employ randomization, they scheduled an appointment at which to complete the first wave of assessments. At this time, participants were assigned an identification number matching that printed on each assessment packet given to the participant. Participants were randomly assigned to either the Treatment-Control or Control-Treatment group according to a list of numbers produced by an online random number generator; that is, if a participant's identification number was in the list produced by the random number generator, that participant was assigned to the Treatment-Control group. All assessments were conducted within three weeks prior to the beginning of the program for the Treatment-Control group. Most assessments were completed in a quiet room at one of the two facilities where participants were recruited and participated in the intervention. In some cases, the participant completed the assessment at home due to scheduling difficulties. The series of questionnaires required between 30 minutes and an hour to complete. Assessments were ordered in manila envelopes as follows: PARQ, ECR-R, PCRI, CCNES, PRFQ-1, CAGE-AID, PHQ-8, and a brief demographic questionnaire. Assessments were ordered to minimize priming effects; although participants were instructed to complete the assessments in the order they came out of the packets, it is possible that some participants completed the questionnaires in a different order.

Participants in the Treatment-Control group participated in sessions over an eight-week period before participating in the 'control' condition. Undergraduate research assistants provided childcare for each group session. The duration of the program for several groups was shortened to 7 weeks due to public holidays and group members' schedules, though the same amount of content was covered. Four individuals who were trained and certified to do so by the

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COS developers facilitated the group sessions, with one to two facilitators for each group; all facilitators reported following the COS DVD manual ‘closely’ or ‘very closely’ for each group session. As previously mentioned, if participants missed a group, they completed a make-up session before the subsequent one. The Control-Treatment group delayed participation in the program until the Treatment-Control group had finished, although they participated in the first wave of assessments at the same time as the Treatment-Control group. Thus, those in the Control-Treatment group waited approximately 10 to 11 weeks after random assignment and the first wave of assessments before commencing the program.

At the conclusion of the program for the Treatment-Control condition, all participants in both groups scheduled another appointment—within two to three weeks of the program’s final session—to participate in the second wave of assessments. The same measurements used for the first appointment were given at this wave of data collection (i.e., PARQ, ECR-R, PCRI, CCNES, PRFQ-1, CAGE-AID, PHQ-8, and demographics). The Control-Treatment group then participated in the intervention within two weeks of the Treatment-Control group’s final session and second assessment. Following the Control-Treatment group’s completion of the program, both Treatment-Control and Control-Treatment participants scheduled a final appointment (approximately 8 weeks after the second assessment) to complete a third and final wave of the same assessments mentioned above. Therefore, while the Treatment-Control group was followed for eight weeks following completion of the intervention, there was no such information available for the Control-Treatment group.

### **Primary Hypotheses**

The primary hypothesis of the current study was that participating in the COS DVD program would enhance participants’ capacity for reflective functioning (*Hypothesis 1*). An

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additional hypothesis was that caregivers in the Treatment-Control group would have a greater capacity for reflective functioning, more supportive responses to children's negative affect in distressful situations (i.e., higher scores on problem-focused and emotion-focused reactions and expressive encouragement), and thus, would experience a higher quality relationship with their child[ren] at the first post-test in comparison to the Control-Treatment group (*Hypothesis 2*).

However, it was expected at the follow-up (i.e., the second post-test) that the Control-Treatment group would not significantly differ from the Treatment-Control group, as they would also have participated in the program at that point (*Hypothesis 3*). Further, it was expected that both groups would demonstrate a greater change in reflective functioning, coping with their children's negative emotions, and relationship quality scores from before to after the intervention compared to changes that occurred when they were not receiving the intervention (*Hypothesis 4*).

### **Exploratory Hypotheses**

There are several hypotheses that were explored to examine the influence of the COS DVD program on parent's experiences. Although the program does not specifically target the reduction of depression, it was expected that as participants' relationships with their children improved so would their mood; thus, it was expected that depression would be lower following completion of the intervention than at baseline (*Hypothesis 5*). Further, given the aim of improving parent-child relationships, it was expected that participants in the Treatment-Control group would have higher levels of parenting satisfaction (as measured by the PCRI) at the first post-test than would the Control-Treatment group (*Hypothesis 6*). The final hypothesis of interest concerned the primary outcome measures of interest: reflective functioning and parent-child relationship quality. It was expected that condition, reflective functioning, and parent-child relationship quality (as indicated by the PCRI subscales) would be significantly correlated at the

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post-test, but that reflective functioning would moderate the relationship between condition and parent-child relationship quality (*Hypothesis 7*). In other words, order (i.e., Treatment-Control or Control-Treatment) would be significantly related to parent-child relationship quality, but once reflective functioning was accounted for, the relationship between order and parent-child relationship would be reduced.

### Results

All data were collected between January and November 2013, then entered and summarized in a statistical software program (e.g., SPSS). Before any analyses were conducted, groups were compared on various demographic variables to determine if there were significant differences between the Treatment-Control and Control-Treatment groups. The only variable on which there were significant group differences was CPS involvement ( $t[68.21] = 2.382, p = .020, \eta^2 = .077$ ). However, as noted earlier, the Treatment-Control group ( $n = 24$ ) contained the subsample of CPS- or residential program-involved participants who were unable to be randomly assigned, which significantly contributes to this difference; therefore, follow-up analyses were conducted in which this subsample was treated as a third, independent group ( $n = 8$ ) from the Treatment-Control ( $n = 16$ ) and Control-Treatment ( $n = 13$ ) groups, instead of entering CPS involvement as a covariate.

### Preliminary Analyses

Several descriptive analyses were conducted to examine the composition of the sample and whether its characteristics changed from the initial to final wave of assessments in association with attrition. In addition, t-tests were conducted to detect differences between those who did and did not finish to assess the extent to which attrition would influence conclusions. Differences between the Treatment-Control and Control-Treatment groups at the baseline and

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final assessments with regard to perceptions of early and current close relationships, mood, and substance use were also examined with t-tests.

The initial sample reported an average parental rejection score of 46.03 (SD = 17.09) for fathers and 40.48 (SD = 16.04) for mothers; this is somewhat higher than reports from previous work (Putnick, Bornstein, Lansford, Chang, Deater-Deckard, et al., 2012). The total rejection reported by the final sample was slightly higher than that reported by the initial sample, with average scores for perceived paternal rejection of 46.68 (SD = 17.80) and maternal rejection of 43.74 (SD = 18.49). A t-test did not reveal statistically significant differences between those who did and did not finish the study on either parental rejection variable. In addition, no significant differences on parental rejection were detected between the Treatment-Control and Control-Treatment groups at the baseline or final assessment.

The average anxiety and avoidance scores for the initial (3.73 [SD = .82] and 3.49 [SD = .67], respectively) and final (3.14 [SD = 1.33] and 2.89 [SD = 1.25]) samples were higher than that reported in previous research using community-recruited samples, in which scores have averaged around 2.00 (Butzer & Campbell, 2008). No significant differences were detected on anxiety or avoidance between those that did and did not finish the study. There was, however, a marginally significant difference on anxiety—not avoidance—at the second assessment between the Treatment-Control and Control-Treatment groups ( $t[34] = 1.844, p = .074, \eta^2 = .091$ ), with those in the Treatment-Control group reporting greater anxiety ( $M = 3.55 [SD = 1.49]$ ) than those in the Control-Treatment group ( $M = 2.62 [SD = 1.39]$ ). However, this difference was no longer significant at the final assessment.

The mean substance use score as measured by the CAGE-AID was 1.14 (SD = 1.49) at baseline, indicating that, on average, the initial sample scored above the limit representing a



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possible problem with alcohol and/or other substances. The average score decreased to .75 (SD = 1.34) at the final assessment. There were no statistically significant differences in substance use between those who did and did not finish the study, as well as between those in the Treatment-Control and Control-Treatment groups at both anchoring appointments. With regard to depressive symptoms, the average score at baseline for the initial sample was 6.45 (SD = 5.51), which dropped to 5.84 (SD = 6.09) at the final assessment; these scores, on average, did not indicate major depression. No significant differences were found between those who did and did not finish; this was also the case for the Treatment-Control and Control-Treatment groups at both time points.

Finally, in the fourth session of the program, participants reported on barriers to participating in the intervention. The average number of total barriers (e.g., transportation, employment, education, etc.) reported by the sample was 29.04 (SD = 6.04); the Treatment-Control (M = 28.80) and Control-Treatment (M = 29.31) groups reported similar mean scores. The minimum score reported was a 21.00 (possible minimum score was 20), while the maximum score reported was a 45.00 (possible maximum score was 100). When investigating individual items, one significant difference was found regarding the item that inquired about the participants' job interfering with group sessions ( $t[13.64] = -3.481, p = .004, \eta^2 = .470$ ), with the Control-Treatment group (M = 1.92 [SD = .86]) reporting greater interference than the Treatment-Control group (M = 1.06 [SD = .25]). No significant group differences in total barriers encountered were found between those that did and did not finish the study. However, a significant difference was detected for one item that asked participants to indicate how often they felt too tired to participate in group sessions; those that completed the study reported being tired more often than those that did not finish ( $t[26] = 2.947, p = .007, \eta^2 = .250$ ).

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### Primary Analyses

Given the research questions and comparative nature of the crossover design, repeated measures analyses of variance (RM-ANOVA) were used to examine group differences between the Treatment-Control and Control-Treatment groups across time; time of assessment was the within-subjects factor (i.e., baseline vs. post-test vs. follow-up), while group/order (i.e., Treatment-Control vs. Control-Treatment) was the between-subjects factor. Since all participants could not be randomly assigned to each group, RM-ANOVA procedures were conducted with two *and* with three groups. Analyses comparing two groups defined one group as the participants involved with CFS and participants in the residential program along with those randomly assigned to the Treatment-Control group. Analyses comparing three groups treated CFS/residential program parents as a separate, third group (who will be referred to as the Treatment/CFS-Control group) from the randomly assigned Treatment-Control and Control-Treatment groups. Follow-up t-tests and ANOVAs were conducted on variables for which significant interactions or main effects were found in order to identify at which assessments and between which groups significant differences were detected.

For each significant interaction detected, the results from the follow-up analyses will be reported immediately after the presentation of RM-ANOVA results for each outcome variable to clarify where differences between the groups were found. See Tables 2 and 3 at the end of the paper for the means and standard deviations for outcome variables for all groups across assessments; Tables 4 and 5 depict the results for all outcome variables with regard to effect size, sample size, observed power, and inferential statistics. It should be noted that, given the considerable difficulties with recruitment and retention encountered, non-significant findings *might* be due to insufficient power as a result of the low number of participants in each group.

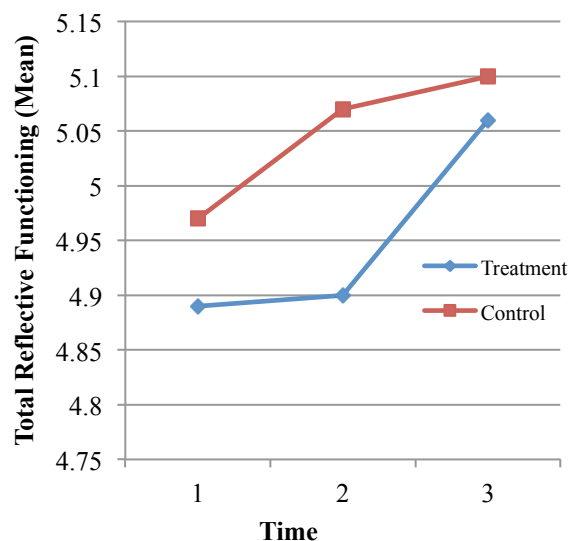
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While several interesting findings emerged, it is possible that effects would have been detected for other outcome variables not presented had sample size been larger. Moreover, results are presented for some outcome variables that do not have inferential support (i.e., are not statistically significant using the traditional .05 p-value), yet have moderate effect sizes; that is, despite non-significance, some effect sizes show that, while not generalizable to the population, an effect was detected for the current sample under study. These more significant findings—statistically and substantively—are discussed below.

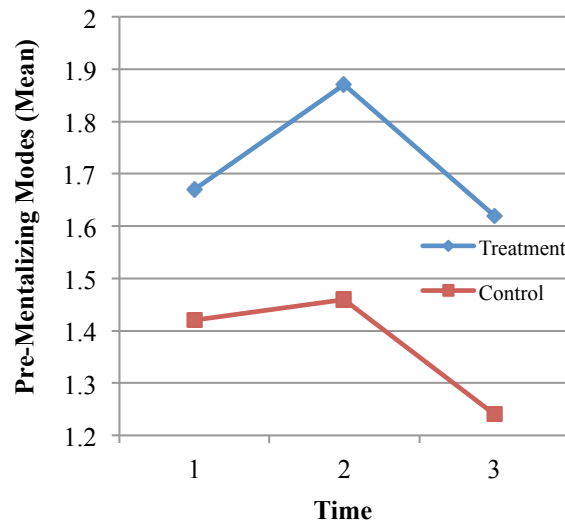
**Reflective Functioning.** The first hypothesis proposed that participating in the COS DVD program would enhance participants' capacity for reflective functioning, and therefore, groups were compared with regard to scores on the PRFQ-1 over time. However, it should be noted that observed power for all analyses was generally low (<.60).

**Two Group Analyses.** For two group analyses, the interaction between time and group/order for the total PRFQ-1 score was not significant ( $F[1.82, 63.66] = .341, p = .692$ ), indicating that those in the Treatment-Control group did not significantly differ from the Control-Treatment group in total reflective functioning scores across time. However, this test was considerably underpowered at .10. See Figure 3a for changes in mean scores across time for the two-group breakdowns; note that, in the interest of space, the Treatment-Control group is referred to as 'Treatment,' while the Control-Treatment group is referred to as 'Control' in the legend of each figure. Similar results were found for the interactions between two of the three subscales and group/order: Pre-Mentalizing Modes ( $F[1.28, 44.70] = .156, p = .756$ , partial  $\eta^2 = .004$ ) and Interest and Curiosity in Mental States ( $F[1.55, 54.22] = .956, p = .371$ , partial  $\eta^2 = .027$ ). A marginally significant group effect for Pre-Mentalizing Modes was found ( $F[1, 35] =$

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**Figure 3a.** Mean scores across time for total reflective functioning scores for two groups.

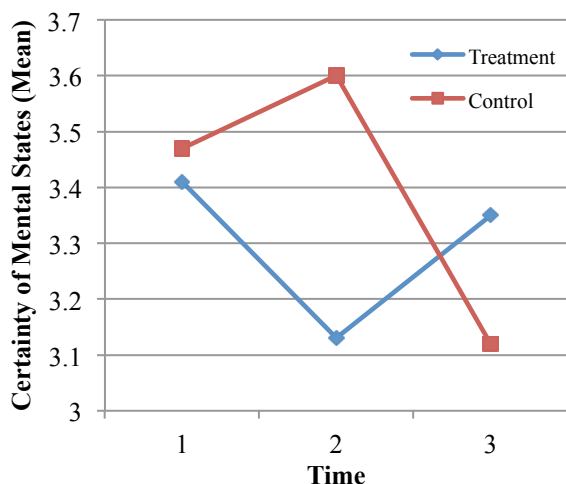


**Figure 3b.** Mean scores across time for Pre-Mentalizing Modes for two groups.

3.935,  $p = .055$ , partial  $\eta^2 = .101$ ), with the Treatment-Control group scoring higher (i.e., reported less difficulty understanding and interpreting children's mental states) at all time points (see Figure 3b). However, the only statistically significant difference between the groups occurred at the final assessment ( $t[34.99] = 2.738$ ,  $p = .01$ ,  $\eta^2 = .176$ ), as the Treatment-Control group continued to score higher than the Control-Treatment group, although both groups decreased between the second and final assessments.

There was a marginally significant interaction effect for Certainty of Mental States ( $F[1.75, 61.36] = 2.702$ ,  $p = .082$ , partial  $\eta^2 = .072$ ), which would likely have been statistically significant had observed power been higher (observed power = .48). See Figure 3c for a depiction of the change in mean scores across time by group. Though the two groups were similar at baseline, the Control-Treatment group scored higher than the Treatment-Control group at the second assessment. Although this difference was not statistically significant, the finding is inconsistent with the first and second hypotheses that the Treatment-Control group would have

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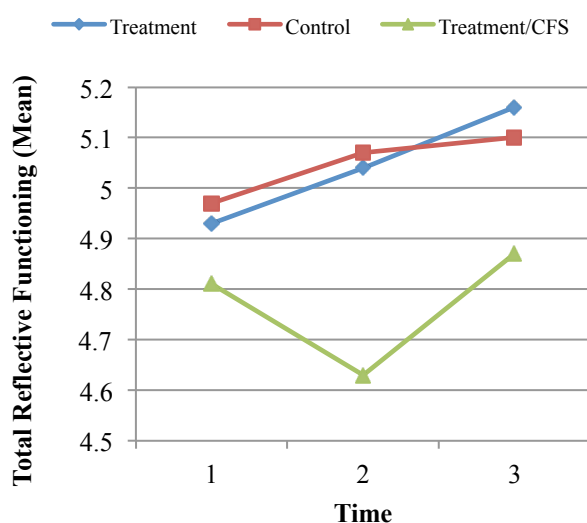


**Figure 3c.** Mean scores across time for Certainty of Mental States for two groups.

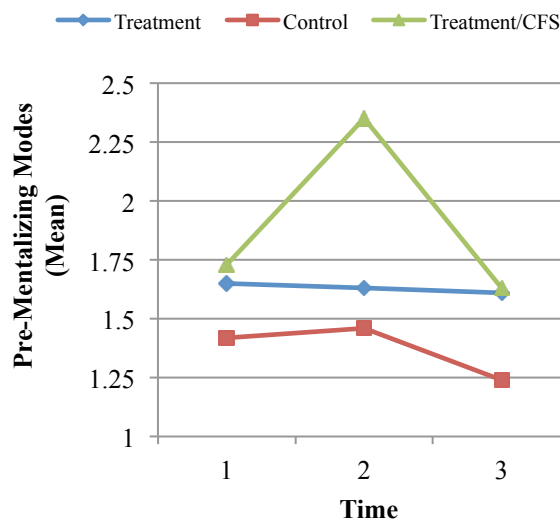
higher reflective functioning scores (and thus, certainty of mental states) at the second assessment than the Control-Treatment group. This difference diminished at the final assessment as the Treatment-Control group scored higher than the Control-Treatment group, though not statistically significant, which is somewhat consistent with the third hypothesis that differences between the groups would disappear at the final assessment after both groups participated in the program.

**Three Group Analyses.** When the two groups were expanded to include the third group, results similar to the two group analyses were found. The interactions between group/order and total PRFQ-1, Pre-Mentalizing Modes, and Interest and Curiosity in Mental States remained non-significant. See Figure 3d for means for total PRFQ-1 for each group across time; the Treatment/CFS-Control group is referred to as simply, Treatment/CFS. The group effect for Pre-Mentalizing Modes remained marginally significant ( $F[2, 34] = 2.807, p = .074, \text{partial } \eta^2 = .142$ ); surprisingly, the observed power was higher for the three group analysis (.52) than that comparing two groups (.49), yet the effect became less significant. An ANOVA revealed two marginally significant group differences at the second ( $F[2, 34] = 2.517, p$

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**Figure 3d.** Means across time for total reflective functioning for three groups.

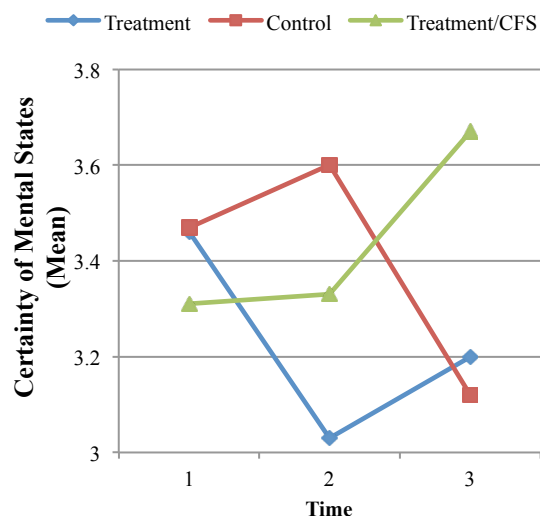


**Figure 3e.** Means across time for Pre-Mentalizing Modes for three groups.

= .096,  $\eta^2 = .129$ ) and final ( $F[2, 34] = 2.566, p = .092, \eta^2 = .131$ ) assessments. Post-hoc tests did not reveal significant differences between any of the groups at either assessment, although the Treatment/CFS-Control group scored considerably higher than both the Treatment-Control and Control-Treatment groups at the second assessment (see Figure 3e). This finding is also inconsistent with the second hypothesis, as both Treatment-Control groups would have been expected to report a greater ability to understand and interpret their children's mental experiences than the Control-Treatment group, which was consistently lower (i.e., reported less difficulty with reflective functioning) than the other two groups across time points.

The interaction including Certainty of Mental States became less significant when three groups were compared ( $F[3.54, 60.12] = 2.054, p = .106, \text{partial } \eta^2 = .108$ ; see Figure 3f), despite an increase in observed power from .48 when analyzing two groups to .55 when analyzing three. A follow-up ANOVA did not detect any statistically significant differences among the three groups across the three time points, although the Control-Treatment group scored higher at the second assessment than both the Treatment-Control and Treatment/CFS-Control groups; the

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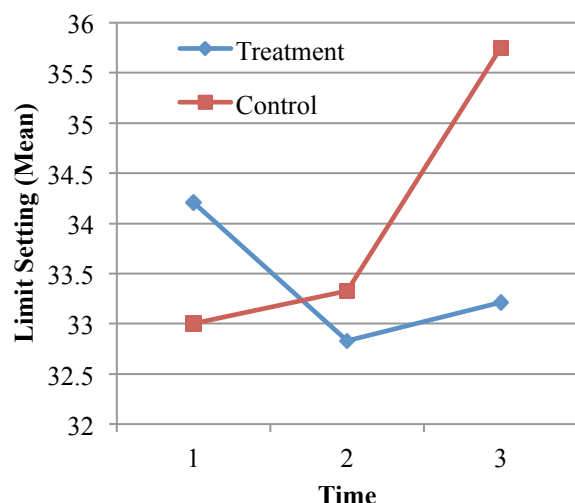
**Figure 3f.** Mean scores across time for Certainty of Mental States for three groups.

Treatment/CFS-Control group scored higher than both the Treatment-Control and Control-Treatment groups at the final assessment (see Figure 3f).

**Parent-Child Relationship Quality.** Broadly, it was expected that participation in the COS DVD program would improve the quality of parent-child relationships with regard to involvement, communication, discipline, willingness to support the child's independence, and parental satisfaction and support. It should be noted that for most of the following two- and three-group analyses, with the exception of Limit Setting, observed power was low ( $< .50$ ), and thus, the effect needed to be strong to be detected.

**Two Group Analyses.** Only one statistically significant interaction effect was found when comparing only the Treatment-Control and Control-Treatment groups across time; the other subscales of the PCRI (Parental Support, Satisfaction with Parenting, Involvement, Communication, and Autonomy) did not have significant interaction or main effects. The lack of significant differences between groups across time in most of the parent-child relationship indicators, such as parental satisfaction and involvement, does not support the second and sixth

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**Figure 4a.** Mean scores across time for Limit Setting for two groups.

hypotheses, which expected the Treatment-Control group to have higher scores at the second assessment than the Control-Treatment group. The one significant interaction on the PCRI was Limit Setting ( $F[1.89, 64.17] = 3.884, p = .028, \text{partial } \eta^2 = .103$ ; see Figure 4a). While the two groups did not significantly differ at the baseline and second assessment, the Control-Treatment group scored higher than the Treatment-Control group at the final assessment, though this difference was only marginally significant ( $t[35] = -1.790, p = .082, \eta^2 = .084$ ). This finding is somewhat inconsistent with the third hypothesis, which proposed that the Control-Treatment group would merely catch up to, not surpass the treatment group. The second hypothesis (stating that participants in the Treatment-Control group would report more positive parenting behaviors at the second assessment in comparison to the Control-Treatment group) was also not supported; the groups did not significantly differ at the second assessment, and in fact, the Control-Treatment group reported greater limit setting than the Treatment-Control group.

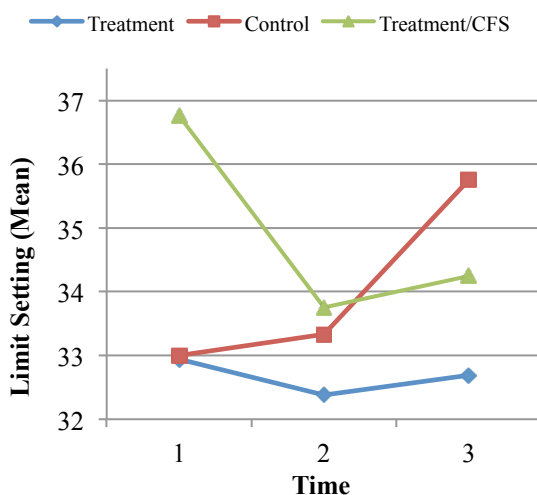
**Three Group Analyses.** Not surprisingly, RM-ANOVAs comparing the three groups did not find significant interaction effects for most of the PCRI subscales. However, the interaction for Limit Setting remained significant ( $F[3.78, 62.38] = 2.646, p = .044, \text{partial } \eta^2 = .138$ ; see



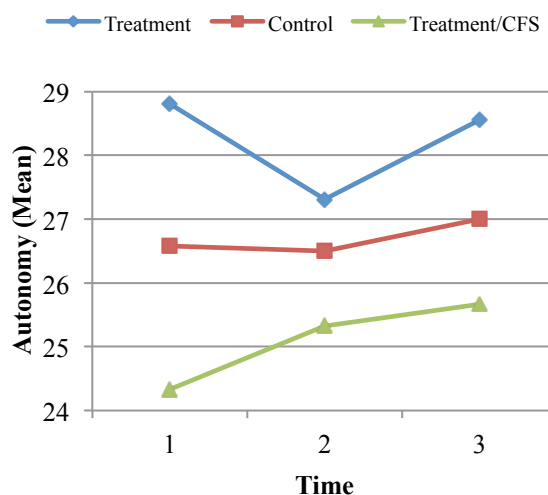
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Figure 4b). Although the Treatment/CFS-Control group scored higher at the baseline than both the Treatment-Control and Control-Treatment groups, the follow-up ANOVA did not reveal significant group differences; all groups were more similar at the second assessment. At the final assessment, all groups increased in limit setting, though the Control-Treatment group scored higher than the Treatment-Control and Treatment/CFS-Control groups; however, this difference was not statistically significant.

Interestingly, a marginally significant main effect for group/order was found when comparing three groups on Autonomy ( $F[2, 31] = 2.737, p = .080, \text{partial } \eta^2 = .150$ ; see Figure 4c). A follow-up ANOVA detected marginally significant differences between the groups at the baseline ( $F[2, 32] = 3.229, p = .053, \eta^2 = .168$ ) and final ( $F[2, 34] = 2.614, p = .088, \eta^2 = .133$ ) assessments in willingness to support children's need for autonomy, with the significant differences occurring between the Treatment-Control and Treatment/CFS-Control groups. The Treatment-Control group reported allowing more autonomy at both time points ( $M_{\text{diff}} = 3.81, p = .068$  and  $M_{\text{diff}} = 3.56, p = .090$  for baseline and the final assessment, respectively).



**Figure 4b.** Mean scores across time for Limit Setting for three groups.



**Figure 4c.** Mean scores across time for Autonomy for three groups.

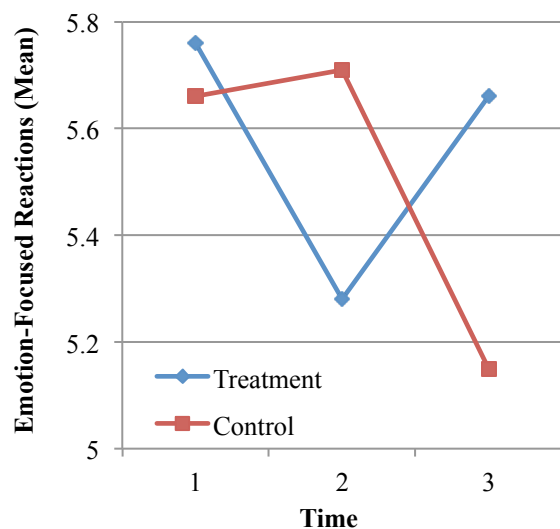
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**Coping with Children's Negative Emotions.** Given the COS DVD program's focus on helping caregivers cope with their children's negative affective states by monitoring their own mental experiences, it was expected that the Treatment-Control group would demonstrate more supportive strategies than the Control-Treatment group at the second assessment following completion of the program. RM-ANOVA procedures revealed several interesting and significant findings for coping with children's negative emotions, particularly when comparing three groups, despite lower power ( $< .80$ ).

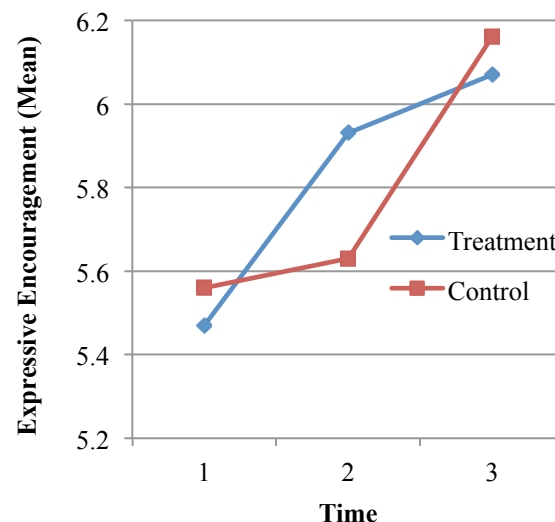
**Two Group Analyses.** With regard to two-group comparisons, the only significant interaction effect was found for Emotion-Focused Reactions ( $F[1.88, 65.91] = 4.846, p = .012$ , partial  $\eta^2 = .122$ ; see Figure 5a). No significant differences were found between the groups at the first two assessments, but a marginally significant difference was detected at the final assessment as the Treatment-Control group scored slightly higher than the Control-Treatment group ( $t[35] = 1.736, p = .091, \eta^2 = .079$ ). This finding also does not support the second or third hypotheses, as the Treatment-Control group did not score higher at the second assessment and the Control-Treatment group scored significantly lower than the Treatment-Control group at the final assessment.

Interestingly, a main effect for time was detected for Expressive Encouragement ( $F[1.70, 59.39] = 7.907, p = .002$ , partial  $\eta^2 = .184$ ; see Figure 5b). In this case, participants in both groups increased their encouragement and validation of children's expressions of negative affect over time. However, the graph comparing two groups shows that the Treatment-Control group exhibited a greater increase from baseline to the second assessment than did the Control-Treatment group. Moreover, the Control-Treatment group exhibited a greater increase over the

## EXAMINING THE COS DVD PROGRAM



**Figure 5a.** Mean scores across time for Emotion-Focused Reactions for two groups.



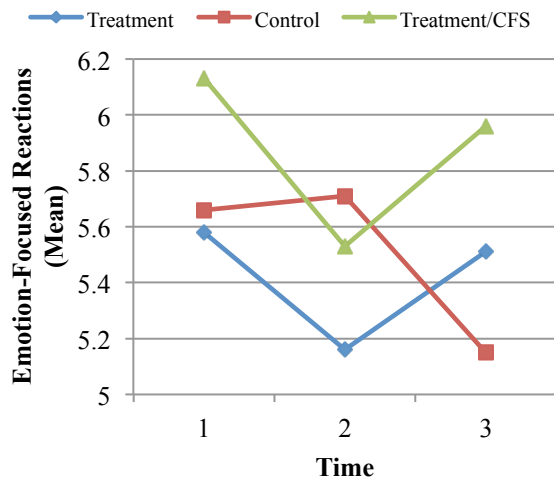
**Figure 5b.** Mean scores across time for Expressive Encouragement for two groups.

course of their participation in the intervention than did the Treatment-Control group between their final group and follow-up. Both increases were significant (see below).

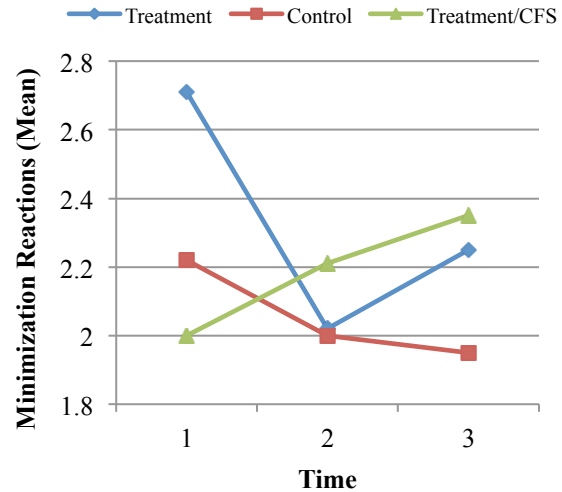
**Three Group Analyses.** The interaction for Emotion-Focused Reactions remained marginally significant when comparing three groups ( $F[3.76, 64] = 2.413, p = .062$ , partial  $\eta^2 = .124$ ; see Figure 5c). Again, a follow-up ANOVA did not detect significant differences among the three groups at any of the three assessments. It should be noted that the Treatment-Control and Treatment/CFS-Control groups' scores decreased between the baseline and second assessment, while the Control-Treatment group slightly increased their emotion-focused reactions. However, both the Treatment-Control and Treatment/CFS-Control groups sharply increased in the period following the intervention at the final assessment, while the Control-Treatment group showed a simultaneous decline.

An additional significant interaction effect was detected when comparing three groups: Minimization Reactions ( $F[3.19, 54.19] = 2.813, p = .045$ , partial  $\eta^2 = .142$ ; see Figure 5d). Follow-up ANOVAs did not identify any significant differences between the groups at any of the

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**Figure 5c.** Mean scores across time for Emotion-Focused Reactions for three groups.

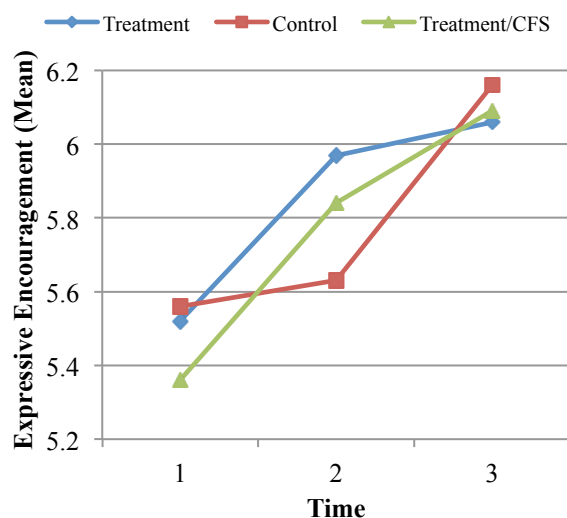


**Figure 5d.** Mean scores across time for Minimization Reactions for three groups.

three time points. However, it should be noted that the Treatment-Control group had a higher score than either the Treatment/CFS-Control or Control-Treatment groups at baseline, and had a much steeper drop at the second assessment than the Control-Treatment group; the Treatment/CFS-Control group showed a slight increase. Between the second and final assessments, both the Treatment-Control and Treatment/CFS-Control groups showed an increase, while the Control-Treatment group continued to decrease in minimization reactions. While the sharp decline for the Treatment-Control group between the baseline and second assessments provides some support for the second hypothesis, the Treatment/CFS-Control group's increase over time as well as the Treatment-Control group's increase in scores following the second assessment are inconsistent with the third hypothesis and prospect of the intervention sustaining effects.

The main time effect for Expressive Encouragement remained significant when comparing three groups ( $F[1.70, 57.66] = 8.330, p = .001, \text{partial } \eta^2 = .197$ ; see Figure 5e). Similar trends were found to the two-group analyses: both the Treatment-Control and

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**Figure 5e.** Mean scores across time for Expressive Encouragement for three groups.

Treatment/CFS-Control groups increased at a steeper slope than did the Control-Treatment group between the baseline and the second assessment. Similarly, the Control-Treatment group exhibited a greater change from the second assessment to the final assessment over the course of their participation in the intervention than did the Treatment-Control or Treatment/CFS-Control groups. Although not entirely consistent with hypotheses, these findings suggest that participating in the intervention produced a more rapid change in participants' reports of encouraging and validating their children's negative emotional expressions.

**Depression.** The seventh hypothesis explored the possibility that the COS DVD program minimized depressive symptoms, and thus, the Treatment-Control group should have lower scores at the second assessment than the Control-Treatment group.

**Two Group Analyses.** Although the interaction for the PHQ-8 was not statistically significant, there was a significant group effect ( $F[1, 32] = 3.482, p = .071, \text{partial } \eta^2 = .098$ ) as the Treatment-Control group scored higher than the Control-Treatment group at all three assessments, and significantly higher at the second assessment ( $t[35] = 2.072, p = .046, \eta^2 = .109$ ), which does not support the seventh hypothesis. It should be noted that the Treatment-

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Control group ( $M = 7.14$ ) also reported more depressive symptoms at baseline than the Control-Treatment group ( $M = 4.17$ ), though this difference was not statistically significant, and includes the Treatment/CFS-Control subgroup, who reported higher scores across assessments when considered independently (see below).

**Three Group Analyses.** When the two groups were expanded to include the third, Treatment/CFS-Control group, the interaction remained non-significant and the Control-Treatment group continued to report fewer depressive symptoms than the other two groups, though the Treatment/CFS-Control group reported the most symptoms at all time points. Indeed, their scores continued to increase across time points, while the Treatment-Control group's scores started to decrease from the second assessment to the final one. Moreover, an ANOVA revealed marginally significant differences among the groups ( $F[2, 34] = 2.755, p = .078, \eta^2 = .139$ ); a post hoc Bonferroni test detected one marginally significant difference ( $p = .084$ ) between the Treatment/CFS-Control and Control-Treatment groups at the second assessment ( $M_{\text{diff}} = 5.17$ ). This finding is not surprising given what is known about parents involved with CFS or residential programs and the impact of life stressors on psychological functioning.

**Substance Use.** While no specific hypotheses were made regarding substance use, analyses were conducted to investigate substance use across time between groups. No significant interaction effects were found for substance use, using either the two- or three-group comparisons. However, in the two-group comparison, there was a marginally significant time effect ( $F[1.93, 63.57] = 2.596, p = .084, \text{partial } \eta^2 = .073$ ); while the Control-Treatment group's substance use mean scores decreased between the baseline and second assessments, then leveled at the final assessment, the Treatment-Control group's mean scores slightly increased before decreasing at the final assessment. When comparisons were expanded to three groups, a clear

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separation occurred between the Treatment-Control and Treatment/CFS-Control groups; the Treatment/CFS-Control group reported greater substance use than both the Treatment-Control and Control-Treatment groups across time. Indeed, a statistically significant between-subjects group effect was found ( $F[2, 32] = 6.674, p = .004, \text{partial } \eta^2 = .294$ ) and a follow-up ANOVA detected significant group differences between the Treatment/CFS-Control group and both the Treatment-Control and Control-Treatment groups at the baseline ( $F[2, 35] = 5.358, p = .009, \eta^2 = .234$ ), second ( $F[2, 35] = 8.159, p = .001, \eta^2 = .318$ ), and final ( $F[2, 32] = 5.172, p = .011, \eta^2 = .244$ ) assessments.

**Changes in Mean Scores Across Conditions.** The fourth hypothesis suggested that participants' mean scores would change significantly more over the course of the intervention condition than over the course of no intervention. Therefore, dependent samples t-tests were conducted to evaluate whether the group's mean scores significantly changed before and after participation in the intervention, and whether those means changed more over the course of the intervention or control (no intervention) condition; only results for the outcome variables for which statistically significant (or marginally significant) effects were reported were included. For the Treatment-Control group, the baseline and second assessment scores, and for the Control-Treatment group, scores from the second and final assessments were used to evaluate change in scores over the course of the intervention. The same procedure was used to assess change during the period of no intervention; that is, for the Treatment-Control group, the second and final assessment scores, and for the Control-Treatment group, baseline and second assessment scores were used. Cohen's *d* effect sizes were computed from the t-statistics in order to standardize mean differences to allow for comparisons between groups and conditions. A larger effect size suggested a greater change for that group or under that condition.

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Dependent sample t-tests detected statistically significant changes for both groups for only two outcome variables, which occurred across the treatment condition. Those in the Treatment-Control group ( $t[23] = -2.260, p = .034, \text{Cohen's } d = .461$ ) and the Control-Treatment group ( $t[12] = -2.565, p = .025, \text{Cohen's } d = .711$ ) reported significant increases in Expressive Encouragement for coping with children's negative emotions, with both groups exhibiting an average increase of .549 standard deviation units over the course of the treatment condition (see Figure 5b). In addition, both groups exhibited significant changes in Emotion-Focused Reactions, although the change was only marginally significant for the Control-Treatment group (see Figure 5a). The Control-Treatment group ( $t[12] = 1.858, p = .088, \text{Cohen's } d = .515$ ) exhibited a greater decrease in Emotion-Focused Reactions than did the Treatment-Control group ( $t[23] = 2.468, p = .021, \text{Cohen's } d = .504$ ) over the course of the intervention, but not by much; taken together, both groups reported an average decrease of .508 standard deviation units.

Interestingly, only the Treatment-Control group exhibited significant changes across the 'control' condition, reporting increases in Emotion-Focused Reactions ( $t[23] = -3.175, p = .004, \text{Cohen's } d = .648$ ; see Figure 5a). Changes for the Control-Treatment group were small and non-significant for all outcome variables, although small sample size and low power should be taken into account.

**Predicting Reflective Functioning.** The final hypothesis expected reflective functioning to moderate the relationship between condition order and parent-child relationship quality (as indicated by the PCRI subscales) after the Treatment-Control group had participated in the intervention. However, the lack of a statistically significant relationship between condition order (or group) and total reflective functioning—or any of the subscales—at the second assessment precluded the need to conduct the analysis.



### Discussion

The present study is one of the first empirical examinations of the effectiveness of the COS DVD parenting program in enhancing parenting and relational capacities that are intended to benefit the caregiver-child relationship. The overall hypothesis was that the COS DVD parenting program would enhance parents' capacity for reflective functioning, and through this mechanism, improve the quality of caregiver-child relationships. Moreover, the program was expected to improve participants' strategies for coping with children's negative emotions, support for children's autonomy, communication and involvement with their children, as well as their own satisfaction with parenting and perceived support in that role. Unfortunately, many of the analyses that investigated this proposition did not provide support for the effectiveness of the program. However, given the small sample, high attrition rates, reduced statistical power, and use of a new measure, the results and following conclusions should be considered preliminary, and not at all conclusive evidence for or against the program; considerably more future research is needed. Nonetheless, given the lack of empirical research regarding the COS DVD program, the present study is an important contribution to the literature.

Few significant interaction effects were detected for many of the outcome variables; however, non-significant findings were likely due to insufficient power as a result of the small numbers in each group, and had the study recruited—and *retained*—greater numbers, these results may have been statistically significant as indicated by the p-value, which is partially dependent on sample size. Moreover, significant interaction effects detected for Certainty of Mental States (PRFQ-1), Emotion-Focused and Minimization Reactions (CCNES), and Limit Setting (PCRI) were often in the opposite direction than hypothesized, rendering interpretation somewhat difficult.

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For instance, the Treatment-Control (including the Treatment/CFS-Control) group was expected to report a greater capacity for reflective functioning at the second assessment following their participation in the intervention; however, the *Control-Treatment group* reported a higher degree of confidence in their knowledge about their children's thoughts, feelings, and intentions (i.e., Certainty of Mental States) than did the treatment first groups, regardless of whether they were considered together or separate. Still, the Treatment-Control group slightly surpassed the Control-Treatment group at the final assessment, with the Treatment/CFS-Control subgroup scoring considerably higher than the other groups, which is somewhat consistent with the third hypothesis, as the groups did not significantly differ at the end. This result seemingly suggests that the COS DVD program actually *reduced* reflective functioning, as both the Treatment-Control and Control-Treatment groups reported a decrease in their certainty of their children's mental states after participating in the intervention. On the other hand, it could be that participants were more accurate reporters of their thoughts, feelings, and reactions regarding their children's mental states, having focused on them the previous eight weeks during participation in the intervention. In addition, the Treatment-Control group's scores appeared to recover at the final assessment, indicating that the intervention may have a delayed effect on reflective functioning, such that the process of change involves disrupting functioning initially (perhaps through practice or awareness) before scores demonstrate improvements in participants' confidence in their understanding and interpretations of children's mental experiences (Stiles, 2006).

Similar results were found regarding participants' use of strategies that are intended to alleviate the child's distress. Given the program's emphasis on helping children regulate their negative emotions, it was expected that participants who had participated in the program would

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report using more supportive and emotion-focused strategies to cope with children's negative emotions. Like reflective functioning, the converse was found: those who had not yet participated in the intervention reported more emotion-focused reactions than did their counterparts who had participated. However, the two treatment first groups reported an increase between the second and final assessments, while the Control-Treatment group reported a decrease. Again, results from the second assessment suggest that the program was not effective in increasing participants' more supportive coping strategies. Yet, when the final assessment is taken into consideration, the treatment first groups reported improvements a few months after participating, suggesting that program effects may take time to manifest in participants' reports of parenting practices and behaviors.

One somewhat perplexing finding was the extent to which participants reported minimizing the seriousness of a child's distressful situation or problem over time. While not evident when analyzing the treatment first groups as one, interesting results emerged when analyzing them separately. The Control-Treatment group appeared to fare best over time as their scores continued to drop, indicating that participants reported less minimization reactions to their children's expressions of negative affect. On the other hand, the Treatment/CFS-Control group reported increasing use of minimization reactions over time, regardless of whether they had just participated in the intervention. Moreover, while the Treatment-Control group reported a steep decrease in minimization reactions following their participation in the COS DVD program, the result was not sustained at the final assessment. In particular, this result suggests that the program may be especially ineffective for parents involved with child welfare agencies or residential substance abuse programs (i.e., at-risk parents for whom the original program was developed) in helping them acknowledge and validate the seriousness of the situation and their

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children's distressful reactions. However, the findings regarding their encouragement and validation of children's negative emotions suggest otherwise, as these parents reported increasing encouragement of emotional expression over time. Minimization reactions may represent default strategies utilized by parents involved with child welfare agencies, to not only cope with their own discomfort with their children's negative emotions, but also to minimize their importance to the child, and consequently, their responsibility to the child. Thus, for these parents, it may be especially difficult to consciously remove automatic strategies to adopt new, more supportive practices, such as encouraging and validating children's negative affect.

One of the more interesting findings concerns participants' discipline practices (i.e., limit setting). While no significant differences between groups were detected across time, the Control-Treatment group did report slightly more limit setting at the final assessment than the Treatment-Control group (including the Treatment/CFS-Control subgroup). Interestingly, while a decrease is reported for both treatment first groups over the course of their participation in the intervention (and a slight increase after), the Control-Treatment group reported an increase after participation in the program. As stated in the results section, both treatment first groups reported greater depressive symptoms than the Control-Treatment group across time points, and particularly at the second assessment, with the Treatment/CFS-Control subgroup reporting the most. It could be that the treatment first groups' depressive symptoms hindered their ability to set limits with their children in the interest of avoiding conflict and expressions of negative affect, which was less the case at the final assessment when depressive symptoms decreased and limit setting increased. Indeed, a significant inverse relationship was found between limit setting and depression at baseline ( $r = -0.353$ ,  $p = .003$ ), which is consistent with prior research linking parental depression to lax discipline practices (Leung & Smith Slep, 2006). Alternatively,

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depression might increase as parents become more aware of their maladaptive parenting or as they apply an enhanced ability to reflect on their own maladaptive behaviors and feelings. Accordingly, limit setting might decline, as the parents feel increasingly guilty about maladaptive practices or the child's problems.

Perhaps the best support for the COS DVD program's effectiveness was the significant time effect for participants' encouragement of emotional expression when their child was distressed. All groups, regardless of a two- or three-group analysis, reported marked increases in their willingness to support and validate their child's expression of negative affect over time, particularly over the course of the intervention condition. That is, the treatment first groups reported a greater increase than the Control-Treatment group following their participation in the program, while the Control-Treatment group showed a steeper increase at the final assessment following *their* participation (see Figures 5b and 5d). A significant emphasis for both the original and DVD-guided COS programs is placed on the importance of emotion regulation for children's development and close relationships (Hoffman et al., 2006). Therefore, a primary goal of the program is to help parents recognize those emotions which they are less comfortable 'being with' their children, and bring attention to the ways in which their struggles undermine their ability to help their child regulate his or her emotions and meet the child's need for comfort and support. Consequently, the results suggest that the program may be helping caregivers become more comfortable with their children's expression of negative affect.

Two interesting findings do not necessarily contribute to our understanding about the program's effectiveness, but may illuminate characteristics that may have influenced whether or not the program was successful. Significant group effects were found for participants' ability to understand and interpret their child's mental states as well as their willingness to support the

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child's independence. While groups were not significantly different at any single time point, the Treatment/CFS-Control group reported greater difficulty in understanding and interpreting their children's mental experience at all time points, and especially at the second assessment.

However, they reported less difficulty at the final assessment, suggesting that the program may have a delayed effect on this aspect of reflective functioning for higher risk parents. Additional evidence comes from the decrease in difficulty reported by both the Treatment-Control and Control-Treatment groups at the final assessment. With regard to autonomy, the Treatment/CFS-Control group was the least willing to promote their child's independence at baseline, while the Treatment-Control group was the most willing. Considering that many parents involved with child welfare agencies may have lost custody of their child[ren], it is not surprising that these parents would be the most uncomfortable with their child's independence given restricted contact with the child. The Treatment/CFS-Control group's scores, however, increased over time, indicating the program may have helped these parents accept their children's need for autonomy.

Groups were expected to exhibit a greater change in outcome scores across the treatment condition than over the period without intervention. The results showed that participants did report significant changes across the treatment condition, but not over the course of no intervention. Both the Treatment-Control and Control-Treatment groups reported significant increases in Expressive Encouragement (CCNES) after participating in the COS DVD intervention, which provides additional evidence that the program is improving parent's utilization of more supportive coping strategies. However, the significant decreases in Emotion-Focused Reactions reported after program participation challenges that conclusion. It could be that parents became more accepting of children's negative emotions, but at the same time, became less responsive to those negative emotions (i.e., less likely to use strategies to calm the

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child), which is progress consistent with that reported in other studies of therapy outcomes wherein clients got worse before they got better (Stiles, 2006). Moreover, the Treatment-Control group reported significant increases over the period following their participation in the COS DVD program, suggesting once again that the program may have a time-lagged effect on coping strategies.

While the program did not have a significant influence on most of the outcomes, there are findings that suggest that the COS DVD program may have improved some relational capacities and aspects of the parent-child relationship. Though improvements were expected at the second assessment for those who participated in the intervention first, the later assessment appeared to best capture the treatment first groups' progress, potentially demonstrating the delay of the program's influence. However, as mentioned before, it could be that participants' reports were more accurate—and thus, different than hypothesized—at the second assessment because they had increased awareness of their parenting behaviors and practices after participation in the program. Future research utilizing collateral reporters and observational methods—including a better or additional measure of reflective functioning—as well as additional waves of data collection is needed to clarify findings.

Given the lack of directly supportive findings, service providers need to re-consider their current and future use of the COS DVD protocol, especially with parents involved (or at-risk of being involved) with child welfare agencies, in the context of interventions that have empirical evidence to support their use (Chaffin et al., 2004; Daro & McCurdy, 2007; Marcynyszyn et al., 2011; Olds et al., 1997; Prinz et al., 2009; Webster-Stratton, 1998). However, the lack of results may also suggest that components of the more intensive COS program, having been excluded from the modified DVD program, are needed for effective intervention. For example, the video

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feedback component is a key difference between the original and the modified DVD program, and it may be that reviewing videos of interactions with one's own child is needed to enhance relational capacities, particularly with parents who may have a lower capacity for reflective functioning, are less educated, and/or at-risk of child maltreatment (Hoffman et al., 2006). Moreover, it could be that the program does not engage parents in the first few sessions, during which other evidence-based interventions have shown the greatest changes occur (Barth, 2009; Garland, Hawley, Brookman-Frazee, & Hurlburt, 2008). Indeed, one common thread weaving together evidence-based practices is the rate at which programs discuss material and the intensity and depth at which they focus on the material. Although the current study could not identify components of the original COS program—as well as evidence-based practices—that are most effective for intervention, results help provide suggestions for future work exploring subsequent revisions to the current DVD program.

### **Limitations**

The present study entailed several limitations that weaken the conclusions to be drawn from the results. Firstly, the greatest limitations were the considerable difficulties with recruitment and attrition the study encountered. Given the resulting low numbers, power was diminished for many of the analyses, and thus, all results should be considered within the context of that significant limitation. That is, multiple findings were marginally or not significant, limiting conclusions regarding those outcomes to the current sample under study; had greater numbers been recruited and retained, those results may have reached statistical significance.

Although the local Head Start agencies agreed to assist in the recruitment of participants, few parents attended the events at which the study and its incentives for participation were advertised. In addition, many of the parents receiving services at Evolution Services were not



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accessible by phone to inquire about willingness to participate, or were not amenable because participation was an additional burden on their schedules that already included weekly group sessions and other obligations (e.g., urinalyses, anger management, etc.). Not surprisingly, many of those who agreed to participate dropped out before the program had finished or before completing subsequent assessments. In response to the insufficient numbers of participants recruited through the two collaboration sites, an advertisement on Craigslist was posted to attempt to recruit caregivers not connected to either agency. While this strategy generated a significant number of participants, many caregivers who inquired about the study did not follow up to schedule a first appointment, or did, but did not attend to complete a first assessment. Finally, a substantial portion of the Control-Treatment group dropped out of the study before participating in the intervention or subsequent waves of data collection, which resulted in uneven groups. Those parents who dropped out while waiting to participate may have been less motivated to change than those who remained, or after several weeks of waiting, their schedule no longer accommodated weekly parent education.

Caregivers under investigation of child welfare agencies often have many meetings, appointments, and court dates to attend that may interfere with weekly group sessions, in addition to personal and social problems (e.g., substance use, poverty, unemployment) that may limit their motivation or ability to participate. Based on previous experience, these caregivers often have a hard time making it to group due to lack of childcare or transportation, and thus, often did not complete all 8 sessions. Therefore, it was anticipated that attrition would be a significant problem for the participants involved with a child welfare agency and less so for community-referred caregivers. However, comparable portions of each group dropped out: 45% of those randomly assigned to the Treatment-Control condition; 57% of those randomly assigned

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to the Control-Treatment condition; and 58% of those mandated to the Treatment/CFS-Control condition. Thus, attrition was a significant problem across groups, indicating a general need for guidelines and strategies beyond monetary incentives to recruit and retain parents in these services.

A few interesting differences were detected between those who did drop out and those who completed the program and all three waves of assessment. As noted before, those who dropped out were more likely to have older children and were less likely to be living with a romantic partner. Perhaps parents who did not complete the study had an older child[ren] with whom they were attending other services that interfered with the group sessions and assessments. Moreover, if a parent has a lack of support at home, it may be more difficult to muster the motivation to attend a group session each week with additional responsibilities waiting afterward. Other interesting differences emerged when looking at the various measures; those who did not complete the study reported significantly more difficulty understanding and interpreting their child's mental states (i.e., Pre-Mentalizing Modes) than those who did participate throughout ( $t[75] = -2.455, p = .016, \eta^2 = .074$ ). This difference suggests that those who did not attend any classes or dropped out prematurely had a more limited capacity for reflective functioning initially than those who made it through the class. It could be that the DVD protocol did not engage those parents who struggled to take their child's perspective or sustain their interest to motivate continued attendance, potentially demonstrating the need to incorporate components of the original that were removed from the DVD version or combine the first few groups to cover more information earlier in the program (Barth, 2009).

Substantially more mothers participated, putting into question the representativeness of the sample of parents. Indeed, at baseline, only 15 fathers were included in the sample compared

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to 61 mothers; at the final assessment, this number had diminished to 7. Due to the low numbers of males in the final sample, caution should be exercised when drawing conclusions about the program's effectiveness with fathers. Moreover, it raises the issue about the absence of fathers in parent education programs, despite diminishing stigma concerning men in caregiving roles (Rochlen, McKelley, & Whittaker, 2010), and signals the need for strategies to encourage their participation.

An additional limitation was the use of assessments that only relied on participant's self-report of current relationships, behaviors, parenting practices, and past experiences. The self-report nature of the assessments raises concern as responses may have been biased by current mood and inaccurate memory, among other things. Indeed, significant associations at the initial assessment were detected between depression and multiple outcome variables, such as parental rejection, attachment anxiety and avoidance, parental support, parent-child communication, limit setting, and support of autonomy. However, it is not known whether depressive symptoms influenced responding or if depression influenced the behavior and parenting practices on which they were reporting. Moreover, social desirability may motivate caregivers to report that their current parenting is more optimal than it is in reality. For example, the Treatment/CFS-Control subgroup reported the most use of strategies to calm their children down and effective discipline practices out of the three groups at baseline. It could be that these parents are reporting—not only to look better in research, but to themselves as well—that they engage in more supportive and positive parenting practices than may be the case (as indicated by their involvement with a child welfare agency). However, the Social Desirability subscale of the PCRI did not show evidence that any parents, including those involved with child welfare or the residential substance abuse program, were responding in a manner to yield an overly positive impression of

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themselves as caregivers. Ultimately, observational methods would have been more desirable, but research resources prevented this option; thus, observational methods, along with other data sources, should be used or incorporated with self-report in the future.

The primary hypothesis of interest concerned the outcome of reflective functioning, which is an important target of the COS intervention (Hoffman et al., 2006). Time and money constraints precluded the use of scoring methods with interviews such as the AAI and PDI, and thus, a new self-report measure was used that has not been well-established as valid and reliable. Nonetheless, significant relationships between the PRFQ-1 and the other more reliable measures were detected that help support its validity. While significant relationships were found for all of the subscales of the PRFQ-1, Pre-Mentalizing Modes had the greatest number of significant (and strong) relationships detected with the PCRI and CCNES. For instance, significant inverse relationships were detected between Pre-Mentalizing Modes and all of the subscales of the PCRI, with correlations ranging from  $-.285$  (Autonomy) to  $-.628$  (Involvement). Not only are many of these correlations strong, but in the direction one would expect if the Pre-Mentalizing Modes scale is indeed measuring difficulty understanding the child's perspective; that is, if one reports difficulty, it would also be expected that they would report less involvement, communication, and parental satisfaction. Similarly, a relatively strong and highly significant relationship was detected between Pre-Mentalizing Modes and Distress Reactions as measured by the CCNES ( $r = .453$ ,  $p < .001$ ), indicating that reporting more difficulty understanding the child's mental experience was related to reports of experiencing distress in response to the child's expression of negative affect. Interestingly, only two of the PRFQ-1 subscales were related to each other: Pre-Mentalizing Modes and Interest and Curiosity in Mental States ( $r = -.296$ ,  $p < .01$ ).

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Finally, random assignment could not be applied to all participants as originally planned, given the timeline to which those parents involved with Evolution Services and the residential program had to adhere. Consequently, fewer conclusions can be drawn about the program's effectiveness with those parents. Nonetheless, they were recruited from a unique population, representing a significant portion of caregivers who receive parent education, and thus, the findings concerning this subgroup contribute to our understanding of the program's utility with parents who may have harmed their child or be at risk of doing so.

Despite limitations, the current study provided a foundation for research on the effectiveness of the COS DVD program and suggested future directions for more rigorous study. This research was sorely needed with regard to the DVD version of the COS Protocol, as there is a lack of empirical evidence to support its use, yet service providers continue to be trained and the program continues to be implemented with caregivers around the world. In addition, the use of random assignment with most of the parents was a significant feature of the design and helps address this gap in the COS evidence base. Ultimately, this study had significant problems with recruitment and retention that resulted in considerably diminished power to detect effects for many of the outcome variables. Consequently, it draws attention to the need for strategies that improve the engagement and retention of parents—particularly at-risk ones—in parent education programs, as well as the events and activities provided by Head Start agencies, which have been given little theoretical or empirical attention in the literature (Daro, McCurdy, & Nelson, 2005).

The rates of child maltreatment continue to be alarming, and the need for interventions that help minimize its incidence is salient for those who wish to prevent abuse and neglect, and the subsequent detrimental trajectories for children at risk for maltreatment. The COS DVD program potentially offers a brief and cost-effective intervention with the goal of improving

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parent-child relationships, yet the present study does not directly support its use. Nonetheless, the DVD protocol holds promise as a brief intervention with the possibility for delivery to a large number of parents; future research is needed to clarify for whom, under what conditions, and with what modifications the program is most, if at all, effective.

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**Tables**

**Table 1.** *Descriptive Statistics Across Time Points (Mean [SD]; %)*

	<b>Time 1 (N=79)</b>	<b>Time 2 (N=44)</b>	<b>Time3 (N=37)</b>
Average participant age	31.78 (9.05)	31.75 (10.10)	32.45 (10.27)
Average # of children	2.17 (1.58)	2.30 (1.79)	2.26 (1.77)
Average # of children living with participant	1.66 (1.35)	1.77 (1.46)	1.62 (1.30)
Average child age	3.20 (2.17)	2.85 (1.67)	3.57 (1.96)
% Male	19.5	13.6	18.4
% White	85.5	81.4	81.6
% Married	31.2	34.1	36.8
% Steady dating relationship	31.2	29.5	31.6
% Single	22.1	27.3	26.3
% Living with romantic partner	54.0	60.5	78.6
% Bio. parent	87.0	83.7	81.1
% Unemployed	42.9	46.5	44.7
% Full time	39.0	37.2	39.5
% Unemployed (Partner)	30.6	21.4	33.3
% Full time	51.0	60.7	47.6
% Income < \$20,000	61.8	63.6	57.9
% High school degree/ GED	29.5	25.0	26.3
% Some college	29.5	43.2	39.5
% 4-year degree	11.5	9.1	5.3
% High school degree/ GED (Partner)	28.0	21.7	30.4
% Some college (Partner)	22.0	39.1	34.8
% 4-year degree (Partner)	12.0	8.7	8.7
% CPS	36.4	39.5	40.5
% Other services	48.7	45.5	44.7

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**Table 2.** *Descriptive Statistics for Outcome Variables for Treatment-Control and Control-Treatment Groups*

	<b>Time 1 Mean (SD)</b>	<b>Time 2 Mean (SD)</b>	<b>Time 3 Mean (SD)</b>
<b>Treatment-Control (n = 24)</b>			
PCRI			
Parental Support	22.18 (4.97)	22.82 (4.93)	22.14 (5.03)
Parental Satisfaction	35.17 (5.54)	33.57 (5.82)	34.00 (6.83)
Involvement	48.30 (6.12)	47.91 (5.53)	46.65 (6.01)
Communication	28.04 (3.97)	28.09 (3.40)	28.61 (3.76)
Autonomy	27.59 (4.23)	26.77 (3.45)	27.77 (3.90)
Limit Setting	34.21 (5.69)	32.83 (5.83)	33.21 (5.13)
CCNES			
Distress Reactions	2.56 (1.07)	2.54 (.87)	2.56 (.88)
Punitive Reactions	2.24 (.93)	2.04 (.79)	1.98 (.76)
Minimization Reactions	2.47 (1.24)	2.08 (.96)	2.29 (1.04)
Emotion-Focused Reactions	5.76 (.76)	5.28 (.92)	5.66 (.66)
Problem-Focused Reactions	5.92 (.85)	5.91 (.84)	6.10 (.66)
Expressive Encouragement	5.47 (1.19)	5.93 (.88)	6.07 (.69)
PRFQ			
PRFQ Total	4.89 (.37)	4.90 (.59)	5.06 (.27)
Pre-Mentalizing Modes	1.67 (.69)	1.87 (1.13)	1.62 (.55)
Certainty of Mental States	3.41 (1.14)	3.13 (.90)	3.35 (.95)
Interest and Curiosity in Mental States	5.91 (.89)	5.65 (1.07)	6.01 (.69)
<b>Control-Treatment (n = 13)</b>			
PCRI			
Parental Support	24.50 (4.01)	25.00 (4.97)	25.58 (4.42)
Parental Satisfaction	35.00 (3.28)	35.08 (4.10)	35.58 (4.56)
Involvement	48.75 (3.70)	49.33 (3.77)	48.83 (4.09)
Communication	29.25 (2.80)	30.50 (3.63)	29.33 (2.74)
Autonomy	26.58 (2.84)	26.50 (2.47)	27.00 (2.73)
Limit Setting	33.00 (5.59)	33.33 (6.05)	35.75 (5.14)
CCNES			
Distress Reactions	2.35 (.69)	2.16 (.50)	2.28 (.55)
Punitive Reactions	1.96 (.45)	1.73 (.41)	1.74 (.58)
Minimization Reactions	2.22 (.85)	2.00 (.64)	1.95 (.65)
Emotion-Focused Reactions	5.66 (1.07)	5.71 (.74)	5.15 (1.12)
Problem-Focused Reactions	6.22 (.72)	6.05 (.69)	6.29 (.44)
Expressive Encouragement	5.56 (.77)	5.63 (.95)	6.16 (.80)
PRFQ			
PRFQ Total	4.97 (.45)	5.07 (.38)	5.10 (.47)
Pre-Mentalizing Modes	1.42 (.42)	1.46 (.41)	1.24 (.29)
Certainty of Mental States	3.47 (1.09)	3.60 (1.11)	3.12 (1.37)
Interest and Curiosity in Mental States	6.05 (.55)	6.19 (.58)	6.32 (.52)

\*Note: Treatment group includes participants involved with CFS and residential program.

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**Table 3.** *Descriptive Statistics for Outcome Variables for Treatment-Control and Treatment/CFS-Control Groups*

	<b>Time 1 Mean (SD)</b>	<b>Time 2 Mean (SD)</b>	<b>Time 3 Mean (SD)</b>
<b>Treatment-Control (n = 16)</b>			
PCRI			
Parental Support	21.67 (3.52)	22.40 (4.24)	21.87 (3.98)
Parental Satisfaction	36.27 (3.84)	34.27 (3.92)	35.13 (4.49)
Involvement	49.07 (4.86)	49.00 (4.16)	47.60 (4.10)
Communication	28.38 (3.32)	28.06 (3.02)	29.06 (3.21)
Autonomy	28.81 (4.10)	27.31 (3.52)	28.56 (4.24)
Limit Setting	32.94 (5.62)	32.38 (5.82)	32.69 (4.73)
CCNES			
Distress Reactions	2.65 (.84)	2.63 (.89)	2.51 (.72)
Punitive Reactions	2.36 (1.01)	2.01 (.78)	2.07 (.84)
Minimization Reactions	2.71 (1.43)	2.02 (1.09)	2.25 (1.22)
Emotion-Focused Reactions	5.58 (.67)	5.16 (.94)	5.51 (.70)
Problem-Focused Reactions	5.89 (.84)	5.81 (.94)	6.04 (.71)
Expressive Encouragement	5.52 (1.24)	5.97 (.95)	6.06 (.79)
PRFQ			
PRFQ Total	4.93 (.34)	5.04 (.31)	5.16 (.21)
Pre-Mentalizing Modes	1.65 (.54)	1.63 (.49)	1.61 (.45)
Certainty of Mental States	3.46 (1.30)	3.03 (.85)	3.20 (.91)
Interest and Curiosity in Mental States	5.83 (.85)	5.78 (.70)	6.03 (.64)
<b>Treatment/CFS-Control (n = 8)</b>			
PCRI			
Parental Support	23.29 (7.45)	23.71 (6.47)	22.71 (7.13)
Parental Satisfaction	33.13 (7.72)	32.25 (8.53)	31.88 (9.92)
Involvement	46.88 (8.18)	45.88 (7.36)	44.88 (8.63)
Communication	27.29 (5.41)	28.14 (4.41)	27.57 (4.93)
Autonomy	24.33 (2.66)	25.33 (2.47)	25.67 (1.63)
Limit Setting	36.75 (5.26)	33.75 (6.14)	34.25 (6.07)
CCNES			
Distress Reactions	2.36 (1.47)	2.38 (.86)	2.65 (1.21)
Punitive Reactions	2.00 (.74)	2.10 (.86)	1.78 (.56)
Minimization Reactions	2.00 (.53)	2.21 (.65)	2.35 (.64)
Emotion-Focused Reactions	6.13 (.85)	5.53 (.89)	5.96 (.48)
Problem-Focused Reactions	5.99 (.93)	6.09 (.58)	6.21 (.58)
Expressive Encouragement	5.36 (1.17)	5.84 (.75)	6.09 (.47)
PRFQ			
PRFQ Total	4.81 (.43)	4.63 (.90)	4.87 (.28)
Pre-Mentalizing Modes	1.73 (.96)	2.35 (1.81)	1.63 (.74)
Certainty of Mental States	3.31 (.79)	3.33 (1.03)	3.67 (1.02)
Interest and Curiosity in Mental States	6.06 (1.01)	5.38 (1.60)	5.96 (.81)

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**Table 4.** *Effect sizes, sample size, and power for interaction effects for all outcome variables for two-group analysis.*

<b>Outcome Variable</b>	<b>Partial <math>\eta^2</math></b>	<b>N</b>	<b>Observed Power</b>	<b>Sign.</b>
<b>Reflective Functioning</b>				
Total RF	.010	37	.100	.692
Pre-Mentalizing Modes	.004	37	.069	.756
Certainty of Mental States	.072	37	.483	.082
Interest and Curiosity in Mental States	.027	37	.188	.371
<b>Parent-Child Relationship Quality</b>				
Satisfaction with Parenting	.041	35	.283	.254
Parental Support	.020	34	.145	.504
Communication	.043	35	.298	.238
Involvement	.029	35	.195	.365
Autonomy	.008	34	.087	.759
Limit Setting	.103	36	.665	.028
<b>Coping with Children's Negative Emotions</b>				
Distress Reactions	.008	37	.088	.738
Punitive Reactions	.001	37	.057	.947
Minimization Reactions	.014	37	.119	.555
Emotion-Focused Reactions	.122	37	.766	.012
Problem-Focused Reactions	.008	37	.092	.755
Expressive Encouragement	.030	37	.218	.333
Depression	.010	34	.092	.645
Substance Use	.042	35	.295	.241

\*Note: Significant findings with substantive effect sizes are highlighted.

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**Table 5.** *Effect size, sample size, and power of interaction effects for all outcome variables for three groups.*

<b>Outcome Variable</b>	<b>Partial <math>\eta^2</math></b>	<b>N</b>	<b>Observed Power</b>	<b>Sign.</b>
<b>Reflective Functioning</b>				
Total RF	.039	37	.203	.588
Pre-Mentalizing Modes	.069	37	.293	.297
Certainty of Mental States	.108	37	.545	.106
Interest and Curiosity in Mental States	.068	37	.318	.307
<b>Parent-Child Relationship Quality</b>				
Parental Satisfaction	.053	35	.263	.463
Parental Support	.024	34	.123	.796
Communication	.066	35	.328	.352
Involvement	.034	35	.164	.648
Autonomy	.059	34	.277	.429
Limit Setting	.138	36	.690	.045
<b>Coping with Children's Negative Emotions</b>				
Distress Reactions	.044	37	.220	.522
Punitive Reactions	.039	37	.208	.592
Minimization Reactions	.142	37	.663	.045
Emotion-Focused Reactions	.124	37	.643	.062
Problem-Focused Reactions	.014	37	.099	.912
Expressive Encouragement	.034	37	.176	.636
Depression	.022	34	.111	.776
Substance Use	.062	35	.305	.387

\*Note: Significant findings with substantive effect sizes are highlighted.

Appendix A

ADULT PARQ: Father (Short Form)

Name (or I.D. number) \_\_\_\_\_

Date \_\_\_\_\_

The following pages contain a number of statements describing the way fathers sometimes act toward their children. Read each statement carefully and think how well it describes the way your father treated you when you were about 7-12 years old. Work quickly. Give your first impression and move on to the next item. Do not dwell on any item.

Four boxes are drawn after each sentence. If the statement is *basically* true about the way your father treated you, ask yourself "Was it almost *always* true?" or "Was it only *sometimes* true?" If you think your father almost always treated you that way, put an *X* in the box ALMOST ALWAYS TRUE; if the statement was sometimes true about the way your father treated you then mark SOMETIMES TRUE. If you feel the statement is basically *untrue* about the way your father treated you then ask yourself, "Was it *rarely* true?" or "Was it almost *never* true?" If it is rarely true about the way your father treated you put an *X* in the box RARELY TRUE; if you feel the statement is almost never true then mark ALMOST NEVER TRUE.

Remember, there is no right or wrong answer to any statement, so be as honest as you can. Respond to each statement the way you feel your father really was rather than the way you might have liked him to be. For example, if in your memory he almost always hugged and kissed you when you were good, you should mark the item as follows:

MY FATHER	TRUE OF MY FATHER		NOT TRUE OF MY FATHER	
	<i>Almost Always True</i>	<i>Sometimes True</i>	<i>Rarely True</i>	<i>Almost Never True</i>
Hugged and kissed me when I was good	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Respondent's significant male caregiver  
(if not father)

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MY FATHER	TRUE OF MY FATHER		NOT TRUE OF MY FATHER	
	<i>Almost Always True</i>	<i>Sometimes True</i>	<i>Rarely True</i>	<i>Almost Never True</i>
1. Said nice things about me	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Paid no attention to me	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Made it easy for me to tell him things that were important to me	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Hit me, even when I did not deserve it	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Saw me as a big nuisance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Punished me severely when he was angry	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Was too busy to answer my questions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Seemed to dislike me	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Was really interested in what I did	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Said many unkind things to me	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. Paid no attention when I asked for help	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. Made me feel wanted and needed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. Paid a lot of attention to me	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. Went out of his way to hurt my feelings	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15. Forgot important things I thought he should remember	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16. Made me feel unloved if I misbehaved	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17. Made me feel what I did was important	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18. Frightened or threatened me when I did something wrong	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19. Cared about what I thought, and liked me to talk about it	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20. Felt other children were better than I was no matter what I did	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21. Let me know I was not wanted	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22. Let me know he loved me	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
23. Paid no attention to me as long as I did nothing to bother him	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
24. Treated me gently and with kindness	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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## ADULT PARQ: Mother (Short Form)

Name (or I.D. number) \_\_\_\_\_

Date \_\_\_\_\_

The following pages contain a number of statements describing the way mothers sometimes act toward their children. Read each statement carefully and think how well it describes the way your mother treated you when you were about 7-12 years old. Work quickly. Give your first impression and move on to the next item. Do not dwell on any item.

Four boxes are drawn after each sentence. If the statement is *basically* true about the way your mother treated you, then ask yourself, "Was it almost *always* true?" or "Was it only *sometimes* true?" If you think your mother almost always treated you that way, put an *X* in the box ALMOST ALWAYS TRUE; if the statement was sometimes true about the way your mother treated you then mark SOMETIMES TRUE. If you feel the statement is basically *untrue* about the way your mother treated you then ask yourself, "Was it *rarely* true?" or "Was it almost *never* true?" If it is rarely true about the way your mother treated you put an *X* in the box RARELY TRUE; if you feel the statement is almost never true then mark ALMOST NEVER TRUE.

Remember, there is no right or wrong answer to any statement, so be as honest as you can. Respond to each statement the way you feel your mother really was rather than the way you might have liked her to be. For example, if in your memory she almost always hugged and kissed you when you were good, you should mark the item as follows:

MY MOTHER	TRUE OF MY MOTHER		NOT TRUE OF MY MOTHER	
	<i>Almost Always True</i>	<i>Sometimes True</i>	<i>Rarely True</i>	<i>Almost Never True</i>
Hugged and kissed me when I was good	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Respondent's significant female caregiver  
(if not Mother)

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MY MOTHER	TRUE OF MY MOTHER		NOT TRUE OF MY MOTHER	
	<i>Almost Always True</i>	<i>Sometimes True</i>	<i>Rarely True</i>	<i>Almost Never True</i>
1. Said nice things about me	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Paid no attention to me	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Made it easy for me to tell her things that were important to me	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Hit me, even when I did not deserve it	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Saw me as a big nuisance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Punished me severely when she was angry	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Was too busy to answer my questions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Seemed to dislike me	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Was really interested in what I did	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Said many unkind things to me	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. Paid no attention when I asked for help	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. Made me feel wanted and needed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. Paid a lot of attention to me	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. Went out of her way to hurt my feelings	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15. Forgot important things I thought she should remember	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16. Made me feel unloved if I misbehaved	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17. Made me feel what I did was important	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18. Frightened or threatened me when I did something wrong	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19. Cared about what I thought, and liked me to talk about it	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20. Felt other children were better than I was no matter what I did	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21. Let me know I was not wanted	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22. Let me know she loved me	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
23. Paid no attention to me as long as I did nothing to bother her	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
24. Treated me gently and with kindness	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

# EXAMINING THE COS DVD PROGRAM

## Appendix B

Experiences in Close Relationships

ID # \_\_\_\_\_

Instructions: The following statements concern how you feel in romantic relationships. We are interested in how you *generally* experience romantic relationships, not just in what is happening in a current relationship. Respond to each statement by indicating how much you agree or disagree with it. Write the number in the space provided to the left, using the following rating scale:

Disagree Strongly		Neutral/Mixed			Agree strongly	
1	2	3	4	5	6	7

- \_\_\_\_\_ 1. I'm afraid that I will lose my partner's love.
- \_\_\_\_\_ 2. It's easy for me to be affectionate with my partner.
- \_\_\_\_\_ 3. I often worry that my partner doesn't really love me.
- \_\_\_\_\_ 4. I feel comfortable depending on romantic partners.
- \_\_\_\_\_ 5. I often wish that my partner's feelings for me were as strong as my feelings for him or her.
- \_\_\_\_\_ 6. I talk things over with my partner.
- \_\_\_\_\_ 7. When my partner is out of sight, I worry that he or she might become interested in someone else.
- \_\_\_\_\_ 8. It helps to turn to my romantic partner in times of need.
- \_\_\_\_\_ 9. I rarely worry about my partner leaving me.
- \_\_\_\_\_ 10. It's not difficult for me to get close to my partner.
- \_\_\_\_\_ 11. I do not often worry about being abandoned.
- \_\_\_\_\_ 12. I get uncomfortable when a romantic partner wants to be very close.
- \_\_\_\_\_ 13. Sometimes romantic partners change their feelings about me for no apparent reason.
- \_\_\_\_\_ 14. I don't feel comfortable opening up to romantic partners.
- \_\_\_\_\_ 15. I'm afraid that once a romantic partner gets to know me, he or she won't like who I really am.

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Disagree Strongly

Neutral/Mixed

Agree strongly

1

2

3

4

5

6

7

\_\_\_\_\_ 16. I find it difficult to allow myself to depend on romantic partners.

\_\_\_\_\_ 17. I worry that I won't measure up to other people.

\_\_\_\_\_ 18. I prefer not to show a partner how I feel deep down.

\_\_\_\_\_ 19. My partner only seems to notice me when I'm angry.

\_\_\_\_\_ 20. I feel comfortable sharing my private thoughts and feelings with my partner.

\_\_\_\_\_ 21. It makes me mad that I don't get the affection and support I need from my partner.

\_\_\_\_\_ 22. I am very comfortable being close to romantic partners.

\_\_\_\_\_ 23. My desire to be very close sometimes scares people away.

\_\_\_\_\_ 24. I prefer not to be too close to romantic partners.

\_\_\_\_\_ 25. I find that my partner(s) don't want to get as close as I would like.

\_\_\_\_\_ 26. I find it relatively easy to get close to my partner.

\_\_\_\_\_ 27. My romantic partner makes me doubt myself

\_\_\_\_\_ 28. I usually discuss my problems and concerns with my partner.

\_\_\_\_\_ 29. When I show my feelings for romantic partners, I'm afraid they will not feel the same about me.

\_\_\_\_\_ 30. I tell my partner just about everything.

\_\_\_\_\_ 31. I worry a lot about my relationships.

\_\_\_\_\_ 32. I am nervous when partners get too close to me.

\_\_\_\_\_ 33. I worry that romantic partners won't care about me as much as I care about them.

\_\_\_\_\_ 34. I find it easy to depend on romantic partners.

\_\_\_\_\_ 35. I often worry that my partner will not want to stay with me.

\_\_\_\_\_ 36. My partner really understands me and my needs.

Appendix C

**Directions**

The statements below describe different ways some parents feel about their children. For each statement, decide how you feel. If you *strongly agree*, circle the 1 next to that statement number on the answer sheet. If you *agree*, circle the 2. If you *disagree*, circle the 3 on the answer sheet. If you *strongly disagree*, circle the 4. Please make sure that you are circling the correct response on the answer sheet.

Use a ball-point pen only, and make heavy marks that completely circle the appropriate response. If you want to change your answer, cross out your first mark and circle another response.

Try to respond to all of the statements. If you aren't sure how you feel, mark the response that comes closest to your feelings at this time. *There are no right or wrong answers.*

Anthony B. Gerard, Ph.D.

Name (Optional): \_\_\_\_\_ Date: \_\_\_\_\_

ID Number: \_\_\_\_\_ Age: \_\_\_\_\_

Ethnicity:  Asian      Parent:  Mother  Father  
 Black      Child's Age: \_\_\_\_\_  
 Hispanic      Child's Sex:  Male  Female  
 Native American  
 White  
 Other \_\_\_\_\_

Examiner's Name: \_\_\_\_\_

**PLEASE PRESS HARD WHEN CIRCLING YOUR RESPONSE.**

<i>Strongly Agree</i>	<i>Agree</i>	<i>Disagree</i>	<i>Strongly Disagree</i>	
1	2	3	4	1. My child generally tells me when something is bothering him or her.
1	2	3	4	2. I have trouble disciplining my child.
1	2	3	4	3. I get as much satisfaction from having children as other parents do.
1	2	3	4	4. I have a hard time getting through to my child.
1	2	3	4	5. I spend a great deal of time with my child.
1	2	3	4	6. When it comes to raising my child, I feel alone most of the time.
1	2	3	4	7. My feelings about being a parent change from day to day.
1	2	3	4	8. Parents should protect their children from things that might make them unhappy.
1	2	3	4	9. If I have to say no to my child, I try to explain why.
1	2	3	4	10. My child is more difficult to care for than most children are.
1	2	3	4	11. I can tell by my child's face how he or she is feeling.
1	2	3	4	12. I worry a lot about money.
1	2	3	4	13. I sometimes wonder if I am making the right decisions about how I raise my child.
1	2	3	4	14. Being a parent comes naturally to me.
1	2	3	4	15. I sometimes give in to my child to avoid a tantrum.
1	2	3	4	16. I love my child just the way he or she is.
1	2	3	4	17. I get a great deal of enjoyment from all aspects of my life.
1	2	3	4	18. My child is never jealous of others.
1	2	3	4	19. I often wonder what the rewards are in raising children.
1	2	3	4	20. My child tells me all about his or her friends.
1	2	3	4	21. I wish I could set firmer limits with my child.
1	2	3	4	22. I get a great deal of satisfaction from having children.
1	2	3	4	23. I sometimes feel if I don't have more time away from my child I'll go crazy.
1	2	3	4	24. I regret having children.
1	2	3	4	25. Children should be given most of the things they want.
1	2	3	4	26. My child is out of control much of the time.
1	2	3	4	27. Being a parent isn't as satisfying as I thought it would be.
1	2	3	4	28. I feel that I can talk to my child on his or her level.
1	2	3	4	29. My life is very stressful right now.
1	2	3	4	30. I never worry about my child.
1	2	3	4	31. I wish my child would not interrupt when I'm talking to someone else.
1	2	3	4	32. Parents should give their children all those things the parents never had.
1	2	3	4	33. I generally feel good about myself as a parent.
1	2	3	4	34. I sometimes feel overburdened by my responsibilities as a parent.
1	2	3	4	35. I feel very close to my child.
1	2	3	4	36. I'm generally satisfied with the way my life is going right now.
1	2	3	4	37. I have never had any problems with my child.
1	2	3	4	38. I can't stand the thought of my child growing up.
1	2	3	4	39. My child would say that I am a good listener.

**PLEASE TURN THE FORM OVER NOW AND COMPLETE STATEMENTS 40 THROUGH 78.**

# EXAMINING THE COS DVD PROGRAM

Strongly  
Dislike  
Dislike  
Dislike  
Strongly  
Like

**PLEASE PRESS HARD WHEN CIRCLING YOUR RESPONSE.**

- | 1 | 2 | 3 | 4 |   |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 40. I often lose my temper with my child.   |
| 1 | 2 | 3 | 4 | 41. I am very involved with my child's sports or other activities.                                |
| 1 | 2 | 3 | 4 | 42. My spouse and I work as a team in doing chores around the house.                              |
| 1 | 2 | 3 | 4 | 43. I have never been embarrassed by anything my child has said or done.                          |
| 1 | 2 | 3 | 4 | 44. My child really knows how to make me angry.   |
| 1 | 2 | 3 | 4 | 45. Parents should be careful about whom they allow their children to have as friends.            |
| 1 | 2 | 3 | 4 | 46. When my child has a problem, he or she usually comes to me to talk things over.               |
| 1 | 2 | 3 | 4 | 47. My child never puts off doing things that should be done right away.                          |
| 1 | 2 | 3 | 4 | 48. Being a parent is one of the most important things in my life.                                |
| 1 | 2 | 3 | 4 | 49. Women should stay home and take care of the children.   |
| 1 | 2 | 3 | 4 | 50. Teenagers are not old enough to decide most things for themselves.                            |
| 1 | 2 | 3 | 4 | 51. My child keeps many secrets from me.  |
| 1 | 2 | 3 | 4 | 52. Mothers who work are harming their children.  |
| 1 | 2 | 3 | 4 | 53. I feel I don't really know my child.  |
| 1 | 2 | 3 | 4 | 54. I sometimes find it hard to say no to my child.   |
| 1 | 2 | 3 | 4 | 55. I wonder if I did the right thing having children.  |
| 1 | 2 | 3 | 4 | 56. I would really rather do a lot of other things than spend time with my child.                 |
| 1 | 2 | 3 | 4 | 57. It's a parent's responsibility to protect his or her child from harm.                         |
| 1 | 2 | 3 | 4 | 58. Sometimes I wonder how I would survive if anything were to happen to my child.                |
| 1 | 2 | 3 | 4 | 59. I miss the close relationship I had with my child when he or she was younger.                 |
| 1 | 2 | 3 | 4 | 60. My child rarely talks to me unless he or she wants something.                                 |
| 1 | 2 | 3 | 4 | 61. A father's major responsibility is to provide financially for his children.                   |
| 1 | 2 | 3 | 4 | 62. It's better to reason with children than just to tell them what to do.                        |
| 1 | 2 | 3 | 4 | 63. I spend very little time talking with my child.   |
| 1 | 2 | 3 | 4 | 64. I feel there is a great distance between me and my child.                                     |
| 1 | 2 | 3 | 4 | 65. For a woman, having a challenging career is just as important as being a good mother.         |
| 1 | 2 | 3 | 4 | 66. I often threaten to punish my child but never do.   |
| 1 | 2 | 3 | 4 | 67. If I had it to do over, I would probably not have children.                                   |
| 1 | 2 | 3 | 4 | 68. Husbands should help with child care.   |
| 1 | 2 | 3 | 4 | 69. Mothers should work only if necessary.  |
| 1 | 2 | 3 | 4 | 70. Some people would say that my child is a bit spoiled.   |
| 1 | 2 | 3 | 4 | 71. I worry a lot about my child getting hurt.  |
| 1 | 2 | 3 | 4 | 72. I seldom have time to spend with my child.  |
| 1 | 2 | 3 | 4 | 73. Below age four, most children are too young to be in a regular preschool or day-care program. |
| 1 | 2 | 3 | 4 | 74. A woman can have a satisfying career and be a good mother too.                                |
| 1 | 2 | 3 | 4 | 75. I carry a photograph of my child in my wallet or purse.                                       |
| 1 | 2 | 3 | 4 | 76. I have a hard time letting go of my child.  |
| 1 | 2 | 3 | 4 | 77. I feel I don't know how to talk with my child in a way that he or she really understands.     |
| 1 | 2 | 3 | 4 | 78. Having a full-time mother is best for a child.  |

# EXAMINING THE COS DVD PROGRAM

## Appendix D

ID \_\_\_\_\_

### Parent Attitude/Behavior Questionnaire

**Instructions:** In the following items, please indicate on a scale from 1 (very unlikely) to 7 (very likely) the likelihood that you would respond in the ways listed for each item. Please read each item carefully and respond as honestly and sincerely as you can. For each response, please circle a number from 1-7.

		Response Scale:						
		1	2	3	4	5	6	7
		Very Unlikely		Medium			Very Likely	
-----								
1.	If my child becomes angry because he/she is sick or hurt and can't go to his/her friend's birthday party, I would:							
	a. send my child to his/her room to cool off	1	2	3	4	5	6	7
	b. get angry at my child	1	2	3	4	5	6	7
	c. help my child think about ways that he/she can still be with friends (e.g., invite some friends over after the party)	1	2	3	4	5	6	7
	d. tell my child not to make a big deal out of missing the party	1	2	3	4	5	6	7
	e. encourage my child to express his/her feelings of anger and frustration	1	2	3	4	5	6	7
	f. soothe my child and do something fun with him/her to make him/her feel better about missing the party	1	2	3	4	5	6	7
2.	If my child falls off his/her bike and breaks it, and then gets upset and cries, I would:							
	a. remain calm and not let myself get anxious	1	2	3	4	5	6	7
	b. comfort my child and try to get him/her to forget about the accident	1	2	3	4	5	6	7
	c. tell my child that he/she is over-reacting	1	2	3	4	5	6	7
	d. help my child figure out how to get the bike fixed	1	2	3	4	5	6	7
	e. tell my child it's OK to cry	1	2	3	4	5	6	7
	f. tell my child to stop crying or he/she won't be allowed to ride his/her bike anytime soon	1	2	3	4	5	6	7
3.	If my child loses some prized possession and reacts with tears, I would:							
	a. get upset with him/her for being so careless and then crying about it	1	2	3	4	5	6	7
	b. tell my child that he/she is over-reacting	1	2	3	4	5	6	7
	c. help my child think of places he/she hasn't looked yet	1	2	3	4	5	6	7
	d. distract my child by talking about happy things	1	2	3	4	5	6	7
	e. tell him/her it's OK to cry when you feel unhappy	1	2	3	4	5	6	7
	f. tell him/her that's what happens when you're not careful	1	2	3	4	5	6	7
4.	If my child is afraid of injections and becomes quite shaky and teary while waiting for his/her turn to get a shot, I would:							
	a. tell him/her to shape up or he/she won't be allowed to do something he/she likes to do (e.g., watch TV)	1	2	3	4	5	6	7
	b. encourage my child to talk about his/her fears	1	2	3	4	5	6	7
	c. tell my child not to make big deal of the shot	1	2	3	4	5	6	7
	d. tell him/her not to embarrass us by crying	1	2	3	4	5	6	7
	e. comfort him/her before and after the shot	1	2	3	4	5	6	7
	f. talk to my child about ways to make it hurt less (such as relaxing so it won't hurt or taking deep breaths).	1	2	3	4	5	6	7

## EXAMINING THE COS DVD PROGRAM

---

Response Scale:    1    2    3    4    5    6    7  
                            Very Unlikely            Medium            Very Likely

---

5. If my child is going over to spend the afternoon at a friend's house and becomes nervous and upset because I can't stay there with him/her, I would:

a. distract my child by talking about all the fun he/she will have with his/her friend	1 2 3 4 5 6 7
b. help my child think of things that he/she could do so that being at the friend's house without me wasn't scary (e.g., take a favorite book or toy with him/her)	1 2 3 4 5 6 7
c. tell my child to quit over-reacting and being a baby	1 2 3 4 5 6 7
d. tell the child that if he/she doesn't stop that he/she won't be allowed to go out anymore	1 2 3 4 5 6 7
e. feel upset and uncomfortable because of my child's reactions	1 2 3 4 5 6 7
f. encourage my child to talk about his/her nervous feelings	1 2 3 4 5 6 7

6. If my child is participating in some group activity with his/her friends and proceeds to make a mistake and then looks embarrassed and on the verge of tears, I would:

a. comfort my child and try to make him/her feel better	1 2 3 4 5 6 7
b. tell my child that he/she is over-reacting	1 2 3 4 5 6 7
c. feel uncomfortable and embarrassed myself	1 2 3 4 5 6 7
d. tell my child to straighten up or we'll go home right away	1 2 3 4 5 6 7
e. encourage my child to talk about his/her feelings of embarrassment	1 2 3 4 5 6 7
f. tell my child that I'll help him/her practice so that he/she can do better next time	1 2 3 4 5 6 7

7. If my child is about to appear in a recital or sports activity and becomes visibly nervous about people watching him/her, I would:

a. help my child think of things that he/she could do to get ready for his/her turn (e.g., to do some warm-ups and not to look at the audience)	1 2 3 4 5 6 7
b. suggest that my child think about something relaxing so that his/her nervousness will go away	1 2 3 4 5 6 7
c. remain calm and not get nervous myself	1 2 3 4 5 6 7
d. tell my child that he/she is being a baby about it	1 2 3 4 5 6 7
e. tell my child that if he/she doesn't calm down, we'll have to leave and go home right away	1 2 3 4 5 6 7
f. encourage my child to talk about his/her nervous feelings	1 2 3 4 5 6 7

8. If my child receives an undesirable birthday gift from a friend and looks obviously disappointed, even annoyed, after opening it in the presence of the friend, I would:

a. encourage my child to express his/her disappointed feelings	1 2 3 4 5 6 7
b. tell my child that the present can be exchanged for something the child wants	1 2 3 4 5 6 7
c. <u>NOT</u> be annoyed with my child for being rude	1 2 3 4 5 6 7
d. tell my child that he/she is over-reacting	1 2 3 4 5 6 7
e. scold my child for being insensitive to the friend's feelings	1 2 3 4 5 6 7
f. try to get my child to feel better by doing something fun	1 2 3 4 5 6 7

## EXAMINING THE COS DVD PROGRAM

	Response Scale:	1	2	3	4	5	6	7
		Very Unlikely		Medium			Very Likely	
-----								
9.	If my child is panicky and can't go to sleep after watching a scary TV show, I would:							
a.	encourage my child to talk about what scared him/her	1	2	3	4	5	6	7
b.	get upset with him/her for being silly	1	2	3	4	5	6	7
c.	tell my child that he/she is over-reacting	1	2	3	4	5	6	7
d.	help my child think of something to do so that he/she can get to sleep (e.g., take a toy to bed, leave the lights on)	1	2	3	4	5	6	7
e.	tell him/her to go to bed or he/she won't be allowed to watch any more TV	1	2	3	4	5	6	7
f.	do something fun with my child to help him/her forget about what scared him/her	1	2	3	4	5	6	7
-----								
10.	If my child is at a park and appears on the verge of tears because the other children are mean to him/her and won't let him/her play with them, I would:							
a.	<u>NOT</u> get upset myself	1	2	3	4	5	6	7
b.	tell my child that if he/she starts crying then we'll have to go home right away	1	2	3	4	5	6	7
c.	tell my child it's OK to cry when he/she feels bad	1	2	3	4	5	6	7
d.	comfort my child and try to get him/her to think about something happy	1	2	3	4	5	6	7
e.	help my child think of something else to do	1	2	3	4	5	6	7
f.	tell my child that he/she will feel better soon	1	2	3	4	5	6	7
-----								
11.	If my child is playing with other children and one of them calls him/her names, and my child then begins to tremble and become tearful, I would:							
a.	tell my child not to make a big deal out of it	1	2	3	4	5	6	7
b.	feel upset myself	1	2	3	4	5	6	7
c.	tell my child to behave or we'll have to go home right away	1	2	3	4	5	6	7
d.	help my child think of constructive things to do when other children tease him/her (e.g., find other things to do)	1	2	3	4	5	6	7
e.	comfort him/her and play a game to take his/her mind off the upsetting event	1	2	3	4	5	6	7
f.	encourage him/her to talk about how it hurts to be teased	1	2	3	4	5	6	7
-----								
12.	If my child is shy and scared around strangers and consistently becomes teary and wants to stay in his/her bedroom whenever family friends come to visit, I would:							
a.	help my child think of things to do that would make meeting my friends less scary (e.g., to take a favorite toy with him/her when meeting my friends)	1	2	3	4	5	6	7
b.	tell my child that it is OK to feel nervous	1	2	3	4	5	6	7
c.	try to make my child happy by talking about the fun things we can do with our friends	1	2	3	4	5	6	7
d.	feel upset and uncomfortable because of my child's reactions	1	2	3	4	5	6	7
e.	tell my child that he/she must stay in the living room and visit with our friends	1	2	3	4	5	6	7
f.	tell my child that he/she is being a baby	1	2	3	4	5	6	7



## EXAMINING THE COS DVD PROGRAM

### Appendix E

#### PRFQ-1

Listed below are a number of statements concerning you and your child. Read each item and decide whether you agree or disagree and to what extent you agree or disagree.

Use the following rating scale, with 7 if you strongly agree; 1 if you strongly disagree; and the midpoint, if you are neutral or undecided, is 4.

Strongly	1	2	3	4	5	6	7	Strongly
Disagree								Agree

1. \_\_\_ My child and I can feel differently about the same thing.
2. \_\_\_ When I get angry with my child, I always know the reason why.
3. \_\_\_ I am often curious to find out how my child feels.
4. \_\_\_ How I am feeling can affect how I understand my child's behavior.
5. \_\_\_ My child knows when I am having a bad day and does things to make it worse.
6. \_\_\_ I like to think about the reasons behind the way my child behaves and feels.
7. \_\_\_ I try to see situations through the eyes of my child.
8. \_\_\_ I always know why my child acts the way he or she does.
9. \_\_\_ My child sometimes gets sick to keep me from doing what I want to do.
10. \_\_\_ I believe that how I think about my child will change over time.
11. \_\_\_ My child can react to a situation very differently than I think he or she will.
12. \_\_\_ I find it hard to actively participate in make believe play with my child.
13. \_\_\_ At times, it takes several tries before I understand what my child needs or wants.
14. \_\_\_ When my child is fussy he or she does that just to annoy me.
15. \_\_\_ Now that I am a parent, I realize how my parents could have misunderstood my reactions when I was a child.
16. \_\_\_ No matter how sick my child is, I can always tolerate him or her.
17. \_\_\_ How I see my child changes as I change.
18. \_\_\_ My behavior towards my child cannot be explained by how I was raised.
19. \_\_\_ I can always predict what my child will do.

## EXAMINING THE COS DVD PROGRAM

20. \_\_\_ I wonder a lot about what my child is thinking and feeling.
21. \_\_\_ Often, my child's behavior is too confusing to bother figuring out.
22. \_\_\_ I can sometimes misunderstand the reactions of my child.
23. \_\_\_ When my child is misbehaving it's a sign that he or she does not love me.
24. \_\_\_ I believe that how my parents raised me affects how I raise my child.
25. \_\_\_ My child cries around strangers to embarrass me.
26. \_\_\_ I pay attention to what my child is feeling.
27. \_\_\_ I can completely read my child's mind.
28. \_\_\_ Understanding why my child behaves in a certain way helps me not to be upset with him or her.
29. \_\_\_ I believe there is no point in trying to guess what my child feels.
30. \_\_\_ I often think about how I felt when I was a child.
31. \_\_\_ I try to understand the reasons why my child misbehaves.
32. \_\_\_ I always know what my child wants.
33. \_\_\_ I hate it when my child cries and/or talks to me when I am on the phone with someone.
34. \_\_\_ The only time I'm certain my child loves me is when he or she is smiling at me.
35. \_\_\_ I'm certain that my child knows that I love him or her.
36. \_\_\_ The best way to know your child loves you is when he or she is well-behaved.
37. \_\_\_ My child's temperament is what it is, and there is little that I can do about that.
38. \_\_\_ I always know why I do what I do to my child.
39. \_\_\_ At times I get confused about what my child is feeling.

**Appendix F**

I.D. #: \_\_\_\_\_

When thinking about drug use, include illegal drug use and the use of prescription drug use other than prescribed.

Questions:	YES	NO
------------	-----	----

---

1. Have you ever felt that you ought to cut down on your drinking or drug use?	<input type="checkbox"/>	<input type="checkbox"/>
---	--------------------------	--------------------------

.....

2. Have people annoyed you by criticizing your drinking or drug use?	<input type="checkbox"/>	<input type="checkbox"/>
---	--------------------------	--------------------------

.....

3. Have you ever felt bad or guilty about your drinking or drug use?	<input type="checkbox"/>	<input type="checkbox"/>
---	--------------------------	--------------------------

.....

4. Have you ever had a drink or used drugs first thing in the morning to steady your nerves or to get rid of a hangover?	<input type="checkbox"/>	<input type="checkbox"/>
--	--------------------------	--------------------------

# EXAMINING THE COS DVD PROGRAM

## Appendix G

### PHQ-8

Over the last 2 weeks, how often have you been bothered by any of the following problems?

(Use “✓” to indicate your answer)

	Not at all	Several days	More than half the days	Nearly every day
1. Little interest or pleasure in doing things	0	1	2	3
2. Feeling down, depressed, or hopeless	0	1	2	3
3. Trouble falling or staying asleep, or sleeping too much	0	1	2	3
4. Feeling tired or having little energy	0	1	2	3
5. Poor appetite or overeating	0	1	2	3
6. Feeling bad about yourself - or that you are a failure or have let yourself or your family down	0	1	2	3
7. Trouble concentrating on things, such as reading the newspaper or watching television	0	1	2	3
8. Moving or speaking so slowly that other people could have noticed? Or the opposite-being so fidgety or restless that you have been moving around a lot more than usual	0	1	2	3

**Appendix H**

**Barriers to Treatment Participation Scale (Parent)**

ID #: \_\_\_\_\_

DIRECTIONS

Participating in treatment is often difficult because of the many demands on parents and families such as school, work, and other activities. It is important to understand different factors and how they affected your participation and attendance in treatment. Please answer the items below that will be used to help us make our treatment better. As you answer the questions, please think about your own situation only and things that you felt about participating in treatment. (All answers are completely confidential.)

Below are common problems that come up in treatment. For each one, place a check (“✓”) for the answer that applies to you.

\_\_\_\_\_  
Never a  
Problem

\_\_\_\_\_  
Once in a  
while

\_\_\_\_\_  
Sometimes a  
problem

\_\_\_\_\_  
Often a  
problem

\_\_\_\_\_  
Very often a  
problem

## EXAMINING THE COS DVD PROGRAM

Please rate the extent to which various problems applied to you and were related to coming to treatment.

1. Transportation (getting a ride, driving, taking a bus) for a session

<u>          </u> Never a Problem	<u>          </u> Once in a while	<u>          </u> Sometimes a problem	<u>          </u> Often a problem	<u>          </u> Very often a problem
---	---	---	---	--

2. Scheduling of appointment times for treatment

<u>          </u> Never a Problem	<u>          </u> Once in a while	<u>          </u> Sometimes a problem	<u>          </u> Often a problem	<u>          </u> Very often a problem
---	---	---	---	--

3. Treatment lasted too long (too many weeks)

<u>          </u> Not too long	<u>          </u> Lasted a little too long	<u>          </u> Lasted too long	<u>          </u> Lasted much too long	<u>          </u> Lasted very much too long
--------------------------------------	--	---	--	---

4. Treatment was in conflict with another of my activities (classes, job, friends)

<u>          </u> Never	<u>          </u> Once in a while	<u>          </u> Sometimes	<u>          </u> Often	<u>          </u> Very often
----------------------------	---	--------------------------------	----------------------------	---------------------------------

5. I did not like the therapist

<u>          </u> I liked the therapist a lot	<u>          </u> I liked the therapist	<u>          </u> I liked the therapist a little	<u>          </u> I did not like the therapist very much	<u>          </u> I did not like the therapist at all
--	---	---	---	--

6. Treatment was not what I expected

<u>          </u> Just like I expected	<u>          </u> Mostly what I expected	<u>          </u> Sort of what I expected	<u>          </u> A little of what I expected	<u>          </u> Not at all what I expected
--	--	---	---	--

7. Information in the session and handouts seemed confusing

<u>          </u> Not confusing at all	<u>          </u> A little confusing	<u>          </u> Somewhat confusing	<u>          </u> Often confusing	<u>          </u> Very often confusing
--	--	--	---	--

## EXAMINING THE COS DVD PROGRAM

8. Crises at home made it hard for me to get to a session

<u>Never a Problem</u>	<u>Once in a while</u>	<u>Sometimes a problem</u>	<u>Often a problem</u>	<u>Very often a problem</u>
----------------------------	----------------------------	--------------------------------	----------------------------	---------------------------------

9. I did not feel that I had enough to say about what goes on in treatment

<u>Not a problem</u>	<u>A slight problem</u>	<u>A problem</u>	<u>A big problem</u>	<u>A very big problem</u>
--------------------------	-----------------------------	------------------	--------------------------	-------------------------------

10. I feel treatment did not focus on my life and problems

<u>Treatment related to my problems</u>	<u>A little related to my problems</u>	<u>Not really related to my problems</u>	<u>Treatment was unrelated to my problems</u>	<u>Treatment was very <u>unrelated</u> to my problems</u>
---	--	--	---	---

11. The therapist did not seem confident that treatment would work for me or my child

<u>Never a problem</u>	<u>Once in a while</u>	<u>Sometimes a problem</u>	<u>Often a problem</u>	<u>Very often a problem</u>
----------------------------	----------------------------	--------------------------------	----------------------------	---------------------------------

12. The therapist did not seem confident in my ability to carry out programs

<u>Never a problem</u>	<u>Once in a while</u>	<u>Sometimes a problem</u>	<u>Often a problem</u>	<u>Very often a problem</u>
----------------------------	----------------------------	--------------------------------	----------------------------	---------------------------------

13. Treatment did not seem to be working

<u>Treatment helped a lot</u>	<u>Treatment helped most of the time</u>	<u>Helped a little</u>	<u>Hardly ever helped</u>	<u>Treatment did not help at all</u>
-----------------------------------	--	----------------------------	-------------------------------	--

14. I do not feel the therapist supported me or my efforts

<u>Therapist was very supportive</u>	<u>Supportive most of the time</u>	<u>Supportive</u>	<u>Sometimes supportive</u>	<u>Therapist was <u>never</u> supportive</u>
--	--	-------------------	---------------------------------	--

## EXAMINING THE COS DVD PROGRAM

15. Getting a baby-sitter so I could participate in the sessions

Never a  
problem

Once in a  
while

Sometimes a  
problem

Often a  
problem

Very often a  
problem

16. I was too tired after work to participate in a session

Never a  
problem

Once in a  
while

Sometimes a  
problem

Often a  
problem

Very often a  
problem

17. My job got in the way of participating in a session

Never a  
problem

Once in a  
while

Sometimes a  
problem

Often a  
problem

Very often a  
problem

18. Treatment took time away from spending time with my children

Never a  
problem

Once in a  
while

Sometimes a  
problem

Often a  
problem

Very often a  
problem

19. I had trouble with other children at home, which made it hard to participate in treatment

Never a  
problem

Once in a  
while

Sometimes a  
problem

Often a  
problem

Very often a  
problem

20. There was always someone sick in my home

Never a  
problem

Once in a  
while

Sometimes a  
problem

Often a  
problem

Very often a  
problem



EXAMINING THE COS DVD PROGRAM

**Appendix I**

Demographics Survey

1. Your age (in years)? \_\_\_\_\_
2. What is your sex?  Male  Female  Prefer not to answer
3. What is your race/ethnicity? (You may select more than one)  
 American Indian  Alaskan Native  Black  Asian/Asian American  
 Hawaiian/Pacific Islander)  Asian/Asian American  Non-Hispanic White  
 Hispanic/Latino  Other
4. For how many children are you the legal parent? \_\_\_\_\_  
What are their ages? \_\_\_\_\_
5. How many children are actually living with you currently? \_\_\_\_\_  
What are their ages? \_\_\_\_\_
6. What is your current relationship status?  
 Single (not involved in a steady relationship)  Never Married  Separated  
 Married  Engaged to be married  Steady Dating Relationship (but not married)  
 Divorced
7. (If not single) Living with romantic partner?  Yes  No
8. (If not single) Relationship Length (years, months): \_\_\_\_\_
9. Are you the biological parent of the child[ren] who this group focuses on?  Yes  No  
If no, what is your relationship to the child[ren] ? \_\_\_\_\_
10. Employment Status  
You:  Unemployed  Part Time (20 hours a week or less)  Full Time (20+ hours a week)  
Romantic Partner/Spouse:  Unemployed  Part Time (20 hours a week or less)  Full Time (20+ hours a week)

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11. Household income per year

- |  |   |
|--|---|
| <input type="checkbox"/> Less than \$20,000  | <input type="checkbox"/> \$60,000 - \$80,000  |
| <input type="checkbox"/> \$20,000 - \$40,000 | <input type="checkbox"/> \$80,000 - \$100,000 |
| <input type="checkbox"/> \$40,000 - \$60,000 | <input type="checkbox"/> More than \$100,000  |

12. Education

You:

Romantic Partner/Spouse:

- |  |  |
|--|--|
| <input type="checkbox"/> Some high school<br>Highest grade completed _____ | <input type="checkbox"/> Some high school<br>Highest grade completed _____ |
| <input type="checkbox"/> High school degree / GED                          | <input type="checkbox"/> High school degree / GED                          |
| <input type="checkbox"/> Some college<br>Highest year completed _____      | <input type="checkbox"/> Some college<br>Highest year completed _____      |
| <input type="checkbox"/> Associate's degree                                | <input type="checkbox"/> Associate's degree                                |
| <input type="checkbox"/> 4 year degree                                     | <input type="checkbox"/> 4 year degree                                     |
| <input type="checkbox"/> Advanced degree                                   | <input type="checkbox"/> Advanced degree                                   |
| <input type="checkbox"/> Don't know  | <input type="checkbox"/> Don't know  |

13. Have you ever been investigated by Child Protective Services/Child and Family Services?

Y  N

14. Are you receiving other services?  Y  N

If so, what services (check all that apply):

- Parent coaching \_\_\_\_\_
- Supervised visits \_\_\_\_\_
- Substance use counseling \_\_\_\_\_
- Anger management group/counseling \_\_\_\_\_
- Individual psychological counseling \_\_\_\_\_
- Urinalyses or other drug/alcohol testing \_\_\_\_\_
- Home visits (by social service providers) \_\_\_\_\_
- Job/Career counseling or training \_\_\_\_\_
- Parenting education \_\_\_\_\_
- Psychiatric hospitalization \_\_\_\_\_
- Other: \_\_\_\_\_

15. Have you ever taken a Circle of Security Parenting class before?  Yes  No

If yes, how many times? \_\_\_\_\_

Appendix J

**Want to EARN \$75?**  
**Have a child UNDER 10 years?**  
**Interested in learning some things**  
**about PARENTING?**  
**Want to participate in RESEARCH?**

I am conducting a study on a parenting program and need parents/caregivers to participate in the class and 3 times filling out surveys. The Circle of Security is an 8-week, group-based program guided by weekly DVD chapters. Each session will last an hour and a half, during the early evenings or mornings. Participation will also require **three appointments** to fill out questionnaires. Participants will receive **\$75** for participation in **at least 7-class sessions (with one make-up) AND ALL assessments**, so a family can possibly earn **\$150** if **both** caregivers in a family participate. Weekly **raffles** will also be held, in which attending participants will have a chance to win various **PRIZES!**

**Sign up if you would like your child to:**

- Have higher self-esteem
- Have better relationships with siblings
- Have stronger friendships
- Trust the people they love
- **ENJOY MORE HAPPINESS WITH PARENTS!**



If interested in participating, please **CONTACT:**

Whitney Rostad

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Phone: 406-599-0054

Approval Expires On 12-2-13  
Date Approved By UM-IRB 12-3-12  
Dan Sarti by [signature] IRB-Chair