

EXPLAINING VARIATION IN BEHAVIORAL PARENT TRAINING OUTCOMES AMONG  
LOW INCOME FAMILIES:  
WHAT DO CAREGIVER EMOTION REGULATION AND SOCIALIZATION PRACTICES  
PREDICT?

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## ABSTRACT

Chloe R. Zachary: Explaining Variation in Behavioral Parent Training Outcomes among Low Income Families: What do Caregiver Emotion Regulation and Socialization Practices Predict?  
(Under the direction of Deborah J. Jones)

Low income status simultaneously increases a child's risk of developing a Disruptive Behavior Disorder (DBD), while decreasing their likelihood of benefiting from current standard-of-care treatment, Behavioral Parent Training (BPT). Given literature to suggest compromises in low income families, as well as links with child DBDs, examination of caregiver emotion regulation and socialization may facilitate the identification of mechanisms underlying variability in treatment success and outcomes *within* low-income populations. As such, this study examined how caregiver emotion regulation and socialization practices predict treatment outcomes in 19 low income families. Findings revealed pre-treatment caregiver emotion regulation impairment explained variation in BPT treatment duration and outcomes, while pre-treatment caregiver emotion socialization explained variation in the severity of child disruptive behaviors at baseline, as well as BPT treatment outcomes. Pre-to-post treatment effect sizes suggested standard treatment produced reductions in caregiver's emotion regulation impairment of high practical significance, and improvements in caregiver's emotion socialization behaviors of medium practical significance.

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## LIST OF ABBREVIATIONS

|        |   |
|--------|---|
| DBD    | Disruptive Behavior Disorder                              |
| BPT    | Behavioral Parent Training                                |
| ODD    | Oppositional Defiant Disorder                             |
| CD     | Conduct Disorder  |
| ADHD   | Attention Deficit Hyperactive Disorder                    |
| HNC    | <i>Helping the Noncompliant Child</i>                     |
| TE-HNC | <i>Technology-Enhanced Helping the Noncompliant Child</i> |
| ECBI   | Eyberg Child Behavior Inventory                           |
| DERS   | Difficulties in Emotion Regulation Scale                  |
| CCNES  | Coping with Children's Negative Emotions Scale            |

## INTRODUCTION

In an effort to advance the study of psychopathology, a shift has been proposed which advocates moving from traditional diagnostic categories ( e.g., Diagnostic and Statistical Manual of Mental Disorders, DSM-V, American Psychiatric Association, 2013) to identifying and understanding the common systems or dimensions that underlie the continuum of normal and abnormal functioning (i.e., Research Domain Criteria, RDoC, Cuthbert & Insel, 2013; National Institute of Mental Health, 2008). Consistent with such a transdiagnostic approach, impaired emotion regulation, commonly defined as deficits in the internal and external processes involved in initiating, maintaining, and modulating the occurrence, intensity, and expression of emotions, has been identified as a core feature of a broad range of psychopathology (R. A. Thompson, 1994), including early or childhood onset (3 to 8 years old) disruptive behavior disorders (DBDs), defined as oppositional defiant disorder (ODD) and conduct disorder (CD), which often co-occur with attention deficit hyperactivity disorder (ADHD; e.g., August, Realmuto, Iii, Nugent, & Crosby, 1996; Larson, Russ, Kahn, & Halfon, 2011; Merikangas, Nakamura, & Kessler, 2009).

DBDs are among the most common reasons children are referred to mental health care worldwide (see Merikangas, Nakamura, & Kessler, 2009, for a review) and compelling evidence



suggests that disordered emotion regulation is the core feature of ODD (Cavanagh, Quinn, Duncan, Graham, & Balbuena, 2014), plays a significant role in the erratic behavior and mood lability of ADHD, as well as the explosive anger seen in early-onset CD (see Hinshaw, 2003; Hinshaw & Lee, 2003, for reviews). Gone untreated, early onset DBDs predict delinquency in adolescence, antisocial behavior in adulthood, substance and alcohol use, low educational attainment, employment instability, and chronic health problems, yielding an excess of \$70,000 in education, health, and criminal justice costs in seven years alone or as much as a ten-fold increase in costs before the age of 30 (e.g., Pelham, Foster, & Robb, 2007; Piquero, Farrington, Welsh, Tremblay, & Jennings, 2009; Scott, Knapp, Henderson, & Maughan, 2001). In turn, significant empirical attention has focused on the identification and treatment of early onset DBDs, yielding what is now considered the standard of care, Behavioral Parent Training (BPT; see Chorpita et al., 2011; Forehand, Jones, & Parent, 2013; Shaw, 2013, for reviews). Importantly, findings suggest that BPT, more so than any other treatment approach to date, disrupts the maladaptive parent-child interactions implicated in early onset DBDs and, in turn, decreases the risk for protracted disturbances of behavior typically associated with early onset DBDs (see Chorpita et al., 2011; Leijten, Raaijmakers, Castro, & Matthys, 2013; Reyno & McGrath, 2006, for reviews).

BPT, however, does have its limitations, including evidence that the most vulnerable

families, including low income families, may benefit least from services (see Lundahl et al., 2006, for a review). In particular, low income families are generally thought to have more limited treatment success primarily due to increased levels of family stress, which exacerbate the vulnerability for the coercive parent-child interactions implicated in early onset DBDs, as well as compromise the likelihood that a family can effectively engage in and complete treatment (see, Eyberg, Nelson, & Boggs, 2008; Deković et al., 2011; Jones et al., 2013; Piquero, Farrington, Welsh, Tremblay, & Jennings, 2009, Reyno & McGrath, 2006, for reviews). Significant empirical attention as a result has turned to strategies for more effectively engaging and retaining low income families in BPT (e.g., Dumas, Begle, French, & Pearl, 2010; Funderburk, Ware, Altshuler, & Chaffin, 2008; Jones et al., 2014; also see Jones et al., 2013 for a review); however, an equally important, although perhaps less well examined question, is how variability *within* low income families of children with early onset DBDs is linked to variability in engagement in treatment and, in turn, treatment outcome (Lundahl et al., 2006). Accordingly, this study aims to examine how variability in caregiver emotion regulation, as well as socialization—both of which will be discussed in more detail below—may provide critical insight into a crucial mechanism underlying variability in treatment success and outcome within and between low income families.

While individual differences in temperament, genetics, and neurophysiology, play a considerable role in emotion regulation (see, Canli, Ferri, & Duman, 2009; Goldsmith &

Davidson, 2004; Zeman, Cassano, Perry-Parrish, & Stegall, 2006, for reviews), to date we have made less progress with regard to intervening “under the skin.” That said, there is general agreement that the caregiver-child relationship, which is amenable to intervention, functions as the primary ecological context within which children learn to identify and regulate emotions. Specifically, caregivers shape child emotion regulation through a range of socialization behaviors, including caregivers’: (a) reactions to children’s emotions; (b) discussion of emotion; and (c) expression of their own emotion (Eisenberg, Cumberland, & Spinrad, 1998). Given that impaired emotion regulation is a transdiagnostic feature of early-onset DBD’s, it is unsurprising that evidence suggests these emotion socialization behaviors play a significant role in the development of child DBD’s. Caregivers with impaired emotion regulation are more likely to display greater amounts of negative emotionality, model emotion dysregulation, and lack the ability to respond adaptively to their own children’s negative emotions (see Morris, Silk, Steinberg, Myers, & Robinson, 2007, for a review). High levels of caregiver expressed negative emotions are strongly predictive of child emotion dysregulation and disruptive behavior, while caregiver emotion coaching is associated with fewer child disruptive behavior (Duncombe, Havighurst, Holland, & Frankling, 2012). Together, these findings suggest that caregivers with impaired emotion regulation place their children at increased risk for developing impaired emotion regulation, and consequently DBD’s, via modeling and a lack of emotion coaching.

Impaired caregiver emotion regulation may also contribute to the development of child DBDs through inconsistent parenting practices, which are commonly observed in parents of children with DBDs (Duncombe et al., 2012; Prinz & Jones, 2003). Maladaptive caregiver response to child noncompliance is conceptualized as a key component of the coercive cycle that reinforces child behavior problems (see McMahon & Forehand, 2003, for a review). While experiencing negative emotions such as anger, frustration, or annoyance, in response to child noncompliance is normative and expected, a caregiver's ability to modulate his or her emotional response is critical to responding in an adaptive manner. Parents with impaired emotion regulation demonstrate greater negative emotion lability and are more influenced by their child's negative affect, which is associated with harsh and lax parenting (Lorber & Slep, 2005). Harsh, lax, or the combination of the two—inconsistent parenting—is predictive of child adjustment problems and emotion dysregulation (e.g., Duncombe et al., 2012; Parent et al., 2011; Stormshak, Bierman, McMahon, & Lengua, 2000). Furthermore, child emotion regulation appears to strongly mediate the relationship between inconsistent parenting and disruptive child behavior, which may explain why inconsistent parenting is associated with significant child behavior problems (Duncombe et al., 2012).

Furthermore, caregiver emotion regulation socialization behaviors significantly shape the outcomes of children with early-onset DBD's. For example, parental emotion coaching, marked

by accepting, acknowledging, and coaching children through their emotions has been found to serve as a protective factor for children with ODD and CD, as it is predictive of lower levels of externalizing behavior (Dunsmore, Booker, & Ollendick, 2013) and better quality peer interactions (Katz & Windecker-Nelson, 2004). Additionally, observed parental anger and hostility have been found to be predictive of greater externalizing and antisocial behaviors in children over time, particularly for children demonstrating clinical levels of externalizing behaviors early in life (Denham et al., 2000).

In light of the multitude of mechanisms by which impaired caregiver emotion regulation may contribute to children's mental health in general and early onset DBDs in particular, it is important to consider the role of caregiver emotion regulation and socialization behaviors in the context of the treatment of DBDs in which parenting and, in turn the caregiver-child relationship, is the primary target of treatment. Indeed, there has been research on if and how parent psychopathology moderates the BPT treatment process and outcome (see, Maliken & Katz, 2013; Reyno & McGrath, 2006, for reviews). For example, prior work has shown that BPT may be less effective in reducing the externalizing behavior of children of depressed mothers (Loon, Granic, & Engels, 2011). Focusing on a transdiagnostic feature, such as impaired emotion regulation, however, may provide a more cost-effective, efficient, and generalizable method to understanding how caregiver features impact treatment outcomes than attempting to study,

understand, and intervene one diagnosis at a time. Indeed, there is evidence demonstrating the importance of addressing impaired child emotion regulation through caregiver socialization behavior, which has spurred calls in the field to adapt standard BPT to more explicitly include treatment components that target emotion regulation and socialization in the parent-child context (Maliken & Katz, 2013). Of note, research on prior adaptations of BPT, including adaptations to more explicitly target specific issues related to culture (McCabe, Yeh, Garland, Lau, & Chavez, 2005; also see Gardner, Montgomery, & Knerr, 2015; Ortiz & Del Vecchio, 2013, for reviews), as well caregiver mood (Chronis-Tuscano et al., 2013; Rajwan, Chacko, Wymbs, & Wymbs, 2014), have not necessarily proven more efficacious than standard BPT alone. Thus, prior to adapting standard BPT, a more theoretically and empirically sound first step may be to examine the extent to which emotion regulation and socialization behaviors within the parent-child context serve as mechanisms of action critical to the efficacy and/or efficiency of standard BPT, particularly among families currently known to benefit least from standard BPT, such as low-income families (Lundahl et al., 2006).

There is significant evidence that the cumulative risks correlated with low income status are associated with impaired emotion regulation in children (Evans & English, 2002; Lengua, 2002). In part, this may be explained by evidence suggesting that adaptive emotion socialization behaviors are negatively associated with greater income-related maternal risk factors, including

unemployment, single parent status, teen parent at child's birth, and less than high school diploma (Brophy-Herb, Stansbury, Bocknek, & Horodyski, 2012). However, the need for intervention is acute given that adaptive emotion regulation serves as a protective factor in the face of such cumulative risk (Brophy-Herb et al., 2012; Lengua, 2002). Examining the role of caregiver emotion regulation and socialization behaviors, in turn, may further our understanding of why low income status is associated with less successful outcomes in standard BPT in order to then make more informed decisions regarding the need for treatment adaptation.

Accordingly, the current study aimed to preliminarily examine the role of caregiver emotion regulation and emotion socialization behaviors among low-income families of children with early onset DBDs during the course of one example of a clinic-based, individual family-focused BPT program, *Helping the Noncompliant Child (HNC)* (McMahon & Forehand, 2003). First, given the aforementioned literature linking caregiver emotion socialization behaviors to children's emotion regulation and impairment, it was hypothesized that greater caregiver emotion dysregulation and maladaptive emotion socialization practices would be associated with higher levels of child disruptive behaviors at baseline. In addition, given the number of stressors and challenges that low income families must navigate in order to engage in and complete BPT, including the child's DBD, it was expected that greater caregiver emotion dysregulation and maladaptive emotion socialization practices at baseline would negatively impact treatment

response, including an increased risk for dropout, greater number of sessions and weeks required to complete HNC, and smaller pre-to post-treatment effect sizes on disruptive child behavior. Finally, child non-compliance and tantrums frequently involve high levels of child expressed anger, frustration, and sadness. When caregivers feel incapable of preventing or controlling such issues, it is plausible that caregivers would respond with greater emotional reactivity. Given that standard BPT provides caregivers with specific tools to prevent and respond to child non-compliance, it was expected that this may promote more adaptive caregiver response to child emotions, particularly negative emotions. Alternatively, given that standard BPT does not directly address the topic of caregiver emotion regulation broadly, significant change in this domain may not occur.

## METHOD

### Overview

The proposed hypotheses were examined via secondary analyses of a pilot study that aimed to improve the engagement of low income families of children with early onset DBDs in treatment. Consistent with literature to suggest clinic-based, individual family-focused BPT programs may be most optimal for the engagement of low income families (Lundahl et al., 2006), the parent study compared one such BPT program, *Helping the Noncompliant Child (HNC;* McMahon & Forehand, 2003), to *Technology-Enhanced Helping the Noncompliant Child (TE-*



*HNC*), which aimed to examine the extent to which technology enhanced the engagement of low-income families in treatment (Jones et al., 2014). Given that the parent study did not design the technology to target emotion regulation or emotion socialization, preliminary analyses demonstrate no significant differences in caregiver emotion regulation (*HNC*  $M=68.0$ ,  $SD=13.98$ ; *TE-HNC*  $M=66.78$ ,  $SD=24.49$ ) or socialization practices (Parental Reactions to Child Emotions: *HNC*  $M=92.90$ ,  $SD=15.26$ ; *TE-HNC*  $M=94.78$ ,  $SD=28.65$ ; Parental Coaching of Child Emotions: *HNC*  $M=195.80$ ,  $SD=30.86$ , *TE-HNC*  $M=195.50$ ,  $SD=34.37$ ) at baseline, and the current study has no hypotheses regarding how the technology-enhancements may have shaped these constructs, the two groups were collapsed for study analyses and treatment group were statistically controlled.

Low income families (i.e. adjusted gross income not exceeding 150% of the federal poverty limit, which takes into account both income and number of residents in the home) were eligible to participate if they had a 3-to 8- year old child (i.e. the age range for which *HNC* was developed and tested) that exhibited disruptive behaviors in the clinical range, as evidenced by meeting or surpassing clinical cutoffs on the caregiver-report of the Eyberg Child Behavior Inventory (ECBI; Eyberg & Pincus, 1999) Severity or Intensity subscales. Exclusion criteria included: (a) child developmental or physical disability that precluded the use of *HNC* skills; (b) caregiver *current* diagnosis of substance abuse/dependence, mood, or psychotic disorder; or (c)

family involvement with Department of Social Services related to abuse/neglect. Families in north central North Carolina (NC) were recruited via (a) advertisements targeting areas, work places, and retail outlets with an overrepresentation of low-income parents; (b) healthcare, social service, and other agencies that serve low-income families; (c) local schools; and (d) word-of-mouth. Using restricted random assignment to force equal sample sizes, Masters-level therapists randomized interested and eligible families to *HNC* ( $n = 11$ ) or *TE-HNC* ( $n = 11$ ).

## **Participants**

Of the low-income families recruited, 22 enrolled and 3 served as practice cases, yielding 19 families for analyses, including four drop-outs and 15 included in pre-post analyses. Demographics of the sample in the parent study ( $n = 19$ ) indicated that the mean age for participating youth was 5.69 years ( $SD = 1.58$ ); 47% were boys; 16% were Hispanic/Latino; 31% were African American; and 47% were Caucasian. On average, caregivers were 35 years ( $SD = 8.73$ ) of age; 89.5% of caregivers that participated were female; 10% were Hispanic/Latino, 26% were African American; 68% were Caucasian; 18.2% of caregivers were single (never married), 36.4% were married, 9.1% were cohabitating but not married (common law), 13.6% were separated, and 22.7% were divorced; approximately 52.6% completed at least some college/vocational school after high school/GED; the majority (73.7%) were employed at least part time.

## **Procedure**

Interested families contacted a project staff member for a brief phone screen for key eligibility criteria (i.e., 3 to 8 y.o. child, externalizing problems, low income). Eligible and interested caregivers were then scheduled for a more extensive caregiver assessment, which included obtaining caregiver consent for their own and their child's participation, confirming eligibility criteria, and collecting additional information about the family. Caregiver-child dyads that met eligibility were randomized to the *HNC* or *TE-HNC* program and informed consent was obtained from the caregiver for his/her and the child's participation. The caregiver assessment was re-administered within two weeks of the termination of therapy (post-assessment) and three-months post-treatment (follow-up). Procedures at post-assessment and follow-up were similar to baseline assessment procedures with few exceptions (e.g., consent, video consent). Caregivers were compensated \$50 per assessment, and participants in the TE-HNC group received a \$100 bonus for smartphone return.

## **Treatment Groups**

Families in the *HNC* group received the standard manualized treatment described in McMahon & Forehand, 2003. *HNC* is a two-phase program designed to teach effective behavioral child management strategies to parents of children with clinically-significant disruptive behaviors. Following an orientation session, in Phase I—Differential Attention—

caregivers learn to increase the frequency and range of social attention to the child and to reduce the frequency of competing verbal behavior. The primary goal of this phase is to reduce the coercive cycle of parent-child interaction by (re)establishing a positive and mutually reinforcing parent-child relationship. In the context of “Child’s Game” (i.e., child-directed play), the caregiver is taught to: (a) increase the frequency and range of positive attention; (b) eliminate instructions, questions, and criticisms; and (c) ignore minor inappropriate behavior. Parents are instructed to practice Child’s Game for at least 15 minutes per day and told that coparents also should practice. Parents progress to Phase II when the criteria for Phase I skills are met (McMahon & Forehand, 2003).

In Phase II—Compliance Training—caregivers are taught the difference between unclear and clear instructions, to give the “Clear Instruction” sequence, and to use a nonphysical discipline procedure—“Time-Out”—for occasions of noncompliance and other inappropriate behavior that cannot be ignored. Phase II skills are taught within the context of “Parent’s Game” (i.e., parent-directed activities, such as a clean up task), although caregivers are instructed to continue to practice Child’s Game at home to maintain mastery of Phase I skills. Program completion is based on caregivers meeting criteria for all Phase II skills, which requires an average of eight to 12 sessions (McMahon & Forehand, 2003).

The TE-HNC Program consisted of the Standard HNC program enhanced by several

smartphone-technology components, including (see Jones, Forehand, McKee, Cuellar, & Kincaid, 2010 for a review): (a) A skills video series, including psychoeducation, as well as modeling of the skill by parent–child dyads; (b) daily surveys of skill practice and progress that were used to guide mid-week calls and weekly sessions (e.g., problem solving more suitable home practice times if a parent indicates a failure to practice on a daily survey); (c) midweek video calls during which therapists reinforced caregivers for progress and problem solved obstacles to practice (e.g., helping the family to pick a time-out location in the home); (d) weekly videotaped home practice, which provided a “window” for therapists to use during the session to provide feedback regarding skill development; and (e) text reminders regarding the relevance of home practice, the midweek call, and session attendance, as well as reinforcing messages regarding progress.

### **Therapist Training and Supervision**

Therapists were M.A. level graduate students. Training included didactic presentations and practice, one practice case per therapist, as well as protocols for responding to clinical emergencies. Therapists participated in weekly supervision, which included reviewing and discussing videotaped sessions. Therapist fidelity to program materials for both programs was coded using the following procedures: (a) The critical material (e.g., rationale for program, explanation of a skill, practice of the skill with the child) to be covered in each session was delineated; (b) naive, trained coders watched video recordings of sessions; and (c) coders

indicated whether each of the critical points was covered in the session. More than 50% of sessions were coded for fidelity by two coders, who achieved more than 90% reliability, yielding an average fidelity rating of 90%. Finally, it should be noted that all therapists treated families in both arms of study.

## **Measures**

*Child disruptive behavior.* Intensity and Problem subscales on the 36-item Eyberg Child Behavior Inventory (ECBI; Eyberg & Pincus, 1999; see Appendix A) served as the dependent measure of disruptive behavior due to the availability of normative data sensitive to age (2 to 16 years old; Burns, Leonard, Patterson, Nussbaum, & Parker, 1991; Burns & Patterson, 1991) and established psychometrics with low-income samples (e.g., Fernandez, Butler, & Eyberg, 2011). For each item, caregivers rate the intensity of the behavior (0 = *never* to 7 = *always*) and whether each behavior is a problem (0 = *no*; 1 = *yes*). Clinically significant symptoms are defined by scores more than 2 standard deviations above the normed mean for Intensity (clinical cutoff = 127) and/or Problem (clinical cutoff = 11) Scales. Alphas in this study were 0.90 (Intensity) and 0.79 (Problem).

*Caregiver emotion regulation.* The Difficulties in Emotion Regulation Scale (DERS; Gratz & Roemer, 2004; see Appendix B) functioned as the independent measure of caregiver's emotion dysregulation. The 36-item DERS yields a composite total score as well as scores for

the following subscales: 1) *Nonacceptance Subscale*, non-acceptance of negative emotions; 2) *Goal Subscale*, difficulties in engaging in goal-directed behaviors when experiencing negative emotions, 3) *Impulse Subscale*, impulse control difficulties; 4) *Strategies Subscale*, limited access to emotion regulation strategies; 5) *Awareness Subscale*, lack of emotional awareness; and 6) *Clarity Subscale*, lack of emotional clarity. Caregivers rated how often statements such as “I feel at ease with my emotions” apply to them, where 1 is “almost never (0–10%)”, 2 is “sometimes (11–35%)”, 3 is “about half the time (36–65%)”, 4 is “most of the time (66–90%),” and 5 is “almost always (91–100%)”. The DERS has been found to have high internal consistency ( $\alpha = .93$ ), good test-retest reliability, adequate construct and predictive validity (Gratz & Roemer, 2004), and to be sensitive to change over time (e.g., Fox, Hong, & Sinha, 2008; Gratz, Lacroce, & Gunderson, 2006). Alphas in this study were: .94 for the total scale; .84 for the Nonacceptance subscale; .87 for the Goals subscale; .78 for the Impulse subscale; .70 for the Aware subscale; .89 for the Strategies subscale; and .82 for the Clarity subscale. On all scales, higher scores indicate greater emotion dysregulation.

*Caregiver response to child emotions.* The Coping with Children’s Negative Emotions Scale (CCNES; Fabes, Eisenberg, & Bernzweig, 2002; see Appendix C) served as the independent measure of caregiver emotion socialization practices. The CCNES consists of six 12-item subscales that assess separate parental coping responses in reaction to young children’s

negative emotions. The subscales reflect six qualitatively different response patterns to children's negative emotional expressions: 1) Problem-Focused Reactions, 2) Emotion-Focused Reactions, 3) Expressive Encouragement, 4) Minimization Reactions, 5) Punitive Reactions, and 6) Distress Reactions. These subscales will be grouped into *Parental Reactions to Children's Emotions* (including Distress, Minimization, and Punitive Reactions) and *Parental Coaching of Children's Emotions* (including Expressive Encouragement, Emotion-focused and Problem-focused Responses) in order to reflect the theoretical perspective discussed earlier on the mechanisms of caregiver emotion-socialization practices. Of note, these groupings are calculated in the same fashion as the "Supportive" and "Unsupportive" aggregate scores utilized in previous research with this measure (S. Denham & Kochanoff, 2002). Higher scores on the *Parental Reactions to Children's Emotions* indicate greater use of "unsupportive" emotion socialization practices whereas higher scores on the *Parental Coaching of Children's Emotions* indicates greater use of "supportive" emotion socialization practices. Previous studies incorporating the CCNES have demonstrated that the CCNES has good internal and test-retest reliability (e.g., Eisenberg & Fabes, 1994; Eisenberg, Fabes, Carlo, & Karbon, 1992) and is sensitive to change over time (Herbert, Harvey, Roberts, Wichowski, & Lugo-Candelas, 2013). The alphas for the current study are .95 for *Parental Coaching of Children's Emotions* and .84 for *Parental Reactions to Children's Emotions*.



*Treatment Response.* Treatment response was examined in three ways. First, dropout status was assigned to the 4 caregiver-child dyads who dropped-out of the study prior to study completion.

Then, for the completers only, post-assessment disruptive behavior, controlling for baseline disruptive behavior, was assessed using the ECBI, as this measure is sensitive to BPT interventions.

Finally, efficiency of services was measured by tracking both the number of weeks and sessions required for each family to complete the mastery-based HNC program. The measure of number of sessions required to complete the program may reflect aspects of how caregivers' emotion regulation impacts how quickly skill mastery occurs. Alternatively, the number of weeks a family required to complete treatment may more generally reflect the level of stress in a caregiver's life and/or a caregiver's capacity to effectively navigate BPT in the context of that stress. For example, a caregiver who has great difficulty learning the skills may complete the program in 15 sessions over 15 weeks. However, this caregiver should be differentiated from a caregiver who completes the program in 9 sessions over 15 weeks due to a number of cancellations in light of sick family members, needing to pick up extra work shifts, or interruptions in means of transportation. For this measure of weeks, only weeks in which no session occurred due to client reasons (e.g. cancellation, no show, unavailable) were included in

analyses; missed weeks due to therapist reasons (e.g. out-of-town, sick therapist, holiday) were not included.

## PLAN OF ANALYSES

Due to the pilot nature of the study data, as well as the preliminary and formative nature of the state of the field, research questions, and hypotheses, statistical significance is reported when relevant; however, trends in the data measured via effect size were the focus of analyses.

During preliminary data analysis, descriptive statistics, including means and standard deviations for continuous variables, as well as frequencies and percentages for count variables, were conducted on the sociodemographic and major study variables (see Table 1). Additionally, for group-level analyses, diagnostics were performed on the data to ensure all assumptions of linear regression were met. This process included probing for multicollinearity between measures that would prevent the detection of unique effects due to too much shared variance. Furthermore, a correlation matrix that includes all continuous measures was constructed to examine the relations among the primary variables considered in this study (see Table 2).

Primary study analyses are described below by respective aim and associated findings.

## RESULTS

For *Aim 1*, the bivariate associations (Table 2) between baseline ECBI Intensity and Problem scores and the DERS and CCNES *Parental Reactions to Children's Emotions* and *Parental Coaching of Children's Emotions* scores suggest small negative correlations for the DERS and small positive correlations for both CCNES scales. Effect sizes, in the form of semipartial eta squared (0.02–0.14 small, 0.15–0.34 medium, and .35 large (Cohen, Cohen, West, & Aiken, 2013)), were calculated by conducting multiple regression analyses (see Table 3), which suggest that the DERS explained a small (9.1%), CCNES *Parental Reactions to Children's Emotions* scale explained a medium (30.8 %), and CCNES *Parental Coaching of Children's Emotions* explained a medium (24.0%) amount of the variance in baseline levels of ECBI Problem Scores. Of the variation in baseline ECBI Intensity scores, the DERS explained a small (8.4%), the CCNES *Parental Reactions to Children's Emotions* scale explained a medium (17.0%), and the *Parental Coaching of Children's Emotions* scale explained a small (9.8%) amount of the variance in baseline levels of ECBI Intensity Scores.

For *Aim 2*, bivariate associations between caregiver emotion regulation (DERS), emotion socialization (CCNES), and efficiency of services (measured both in weeks and sessions) were examined for all dyads who completed treatment (see Table 4). Although patterns in the data failed to suggest an association between either subscale of the CCNES and either domain of efficiency of services, trends in the preliminary data suggest the DERS at baseline had strong

positive associations with the number of weeks required to complete treatment ( $r = .65, p < .01$ ) and moderate positive associations with the number of sessions required to complete treatment ( $r = .43, p = .11$ ).

Next, a hierarchical multiple regression was conducted to determine if the addition of baseline caregiver emotion regulation and socialization practices improved the prediction of post-assessment ECBI Intensity and Problem scores over and above the respective baseline ECBI scores alone (see Tables 5 and 6). Of the variation in post-assessment ECBI Problem scores, the DERS explained a medium (16.8%), CCNES *Parental Reactions to Children's Emotions* scale explained a medium (22.1 %), and *Parental Coaching of Children's Emotions* explained a small (9.0%) amount of the variance in post-assessment ECBI Problem Scores. All three measures accounted for a small portion of the variation in post-assessment ECBI Intensity scores, as the DERS explained 10.3%, the CCNES *Parental Reactions to Children's Emotions* scale accounted for 3.7%, and .2% could be attributed to the *Parental Coaching of Children's Emotions* scores.

Finally, a binomial logistic regression was utilized to ascertain the effects of baseline ECBI Intensity and Problem, DERS, CCNES *Parental Reactions to Children's Emotions*, and CCNES *Parental Coaching of Children's Emotions* scores on the likelihood that participants would drop-out of treatment ( $\chi^2(5) = 12.80, p < .05$ ; see Table 7). Of note, the model explained 76.3% (Nagelkerke  $R^2$ ) of the variance in drop out status and correctly classified 89.5% of cases.

Sensitivity, defined as the proportion of true positives identified as such, was 75% and specificity, defined as the proportion of true negatives identified as such, was 93.3%, indicating a well-fit model. Moreover, the odds ratios indicate that a single unit increase in ECBI Problem score increased the odds of dropping out of treatment by nearly one and half times ( $OR = 1.43$ ).

For *Aim 3*, pre-to post-treatment effect sizes were calculated on the DERS, CCNES *Parental Reactions to Children's Emotions*, and CCNES *Parental Coaching of Children's Emotions* by executing a paired-samples t-test for each variable. Results of these tests are presented (see Table 8). The necessary assumptions required to conduct paired-samples t-tests were met for both the DERS and the CCNES *Parental Reactions to Children's Emotions*. However, the CCNES *Parental Coaching of Children's Emotions* violated the assumption of normality due to the presence of an extreme outlier. Rather than delete the outlier, due to the small sample size, established procedures were used to reduce the value of the outlier to a less extreme value that was slightly larger than the next largest value in the dataset (Aguinis, Gottfredson, & Joo, 2013). Following this transformation, the CCNES *Parental Coaching of Children's Emotions* met the assumption of normality, as indicated by the Shapiro-Wilke's test ( $p > .05$ ).

Finally, pre-to-post treatment, within-group effect sizes (0.20–0.49 small, 0.50–0.79 medium, and .80 large) were calculated utilizing Morris and DeShon's (2002) Equation 8 (see

appendix D) to control for the correlation between pre-and post-treatment means. The within-group effect size values suggested a high practical significance, a term used for measures that do not have clinical cutoffs (Thompson, 2002), for the DERS ( $d = .83$ ), and medium practical significance for the CCNES *Parental Reactions to Children's Emotions* ( $d = .58$ ) and the CCNES *Parental Coaching of Children's Emotions* ( $d = -.52$ ).

## DISCUSSION

Given literature to suggest compromises in low income families, as well as links with child DBDs, this preliminary investigation of caregiver emotion regulation and socialization may provide clues to the mechanisms underlying variability in treatment success and outcomes *within* low-income families. Findings revealed pre-treatment caregiver emotion regulation impairment explained variation in BPT treatment duration and outcomes, while pre-treatment caregiver emotion socialization practices explained variation in the severity of child disruptive behaviors at baseline, as well as BPT treatment outcomes. Furthermore, pre-to-post treatment effect sizes revealed standard BPT produced reductions in caregiver's emotion regulation impairment of high practical significance, and improvements in caregiver's emotion socialization behaviors of medium practical significance.

With regard to the first set of hypotheses, findings revealed that a moderate amount of the variability in children's disruptive behavior at baseline could be explained by caregiver emotion

socialization practices, particularly caregiver reactions to child emotions. However, the current findings suggested small, negative correlations between greater emotion dysregulation in caregivers and disruptive behavior in children at baseline. While contrary to study hypotheses, this pattern of findings may support previous literature, which purports that impaired emotion regulation in caregivers impacts child outcomes through its impact on parenting practices (Morris et al., 2007). Thus, caregivers self-report of emotion socialization practices may more adequately capture how their own emotion regulation abilities are specifically impacting their parenting, and consequentially, their child's behavior. Furthermore, in the current sample, the DERS showed a small positive correlation with caregivers' use of maladaptive responses to their child's emotions and a small negative correlation with caregivers' use of adaptive emotion coaching strategies, further supporting this model of transmission of effects. It is of note that the CCNES, the current measure of emotion socialization, offers concrete scenarios in which caregivers are asked to rate the likelihood they would respond in various ways, which may be more likely to capture candid or accurate responses from caregivers than the DERS, which inquires about emotion regulation in much broader terms. Thus, it is also possible that the observed effects were impacted by differences in the strengths of the two measures.

In terms of the second hypotheses, results suggested higher emotion dysregulation at baseline was moderately associated with the number of sessions required to complete treatment

and strongly associated with the number of weeks required to complete treatment. These findings seem to support the conceptualization of the number of sessions required to complete the program as a measurement proxy for how caregivers' emotion regulation impacts how quickly skill mastery occurs, while the number of weeks a family required to complete treatment was thought to reflect the level of stress in a caregiver's life and/or a caregiver's capacity to effectively navigate BPT in the context of that stress. As such, the observed findings may indicate that caregivers with greater emotion dysregulation experienced more global stress or difficulty engaging with BPT in light of this stress. Regardless, the current findings indicate that BPT may be relatively less cost effective with caregivers with impaired emotion regulation, due to the increased duration of treatment. As such, these findings suggest that *within* caregivers who face the global stressors common to low-income status, those with relatively less adaptive emotion regulation skills may be particularly in need of additional supports.

Collectively, these findings are in line with study hypotheses and may provide some explanation for previous research suggesting children of caregivers with various psychopathologies are less likely to benefit from BPT (Loon et al., 2011), as such caregivers are also likely to have significant emotion regulation difficulties. It is of note that there was a small, negative correlation between caregiver's reaction to child emotions and both the number of weeks and sessions required to complete treatment. The direction of this effect is opposite of that



hypothesized, as it suggests that greater maladaptive reactions to their children's emotions at baseline was associated with requiring both fewer weeks and sessions to complete treatment. One potential explanation for this finding may be that some caregivers who feel poorly equipped to respond to their children's behaviors react maladaptively to their children's expressed negative emotions and consequentially may be particularly reactive to them. However, BPT may provide these caregivers with a very clear set of behavioral tools to respond with which may lead to relatively efficient changes in caregivers reactions to their children's negative emotions, and consequentially, children's behaviors.

Furthermore, results suggest that post-treatment ECBI Problem Scores, but not Intensity Scores, are better explained by baseline caregiver emotion regulation and emotion socialization behaviors, than ECBI baseline scores alone. Furthermore, more of the variation in post-treatment ECBI Problem Scores was explained by baseline caregiver features than by baseline ECBI Problem scores, providing strong evidence that caregivers' emotion regulation and emotion socialization behaviors do indeed impact BPT treatment outcomes. Although the prediction of post-treatment ECBI Intensity scores was slightly enhanced by the inclusion of baseline caregiver features, the model as a whole explained very little of the variation. This variation in findings between the two types of ECBI scores may be a product of the focus of each scale. Although caregivers with higher levels of emotion dysregulation may be able to still accurately

report the frequency of their children's noncompliant behaviors, they may find more of these behaviors to be problematic than caregivers with more adaptive emotion regulation capabilities. Collectively, these findings suggest that baseline caregiver emotion regulation and emotion socialization behaviors do impact BPT treatment outcomes and offer support for the conceptualization of impaired emotion regulation, and its' resulting maladaptive emotion socialization behaviors, as one potential mechanism driving the decreased efficacy of BPT programs with caregivers with various psychopathologies (Loon et al., 2011).

The logistic regression model predicting drop-out status was a well-fit model; however, this appears to primarily be a function of the inclusion of baseline ECBI scores rather than baseline caregiver features. With regard to the ECBI, previous research has found mixed findings regarding the role of pretreatment child behavior problem severity in predicting treatment dropout (e.g., Reyno & McGrath, 2006; Schneider, Gerdes, Haack, & Lawton, 2013). Furthermore, while baseline caregiver emotion regulation and socialization may truly not predict treatment attrition, these findings may also have resulted from the current study's relatively low drop-out rate (21%), which made prediction of drop-out status more difficult. For example, prior BPT research with low-income families of children with early onset DBDs report drop-out rates as high as 56% (Fernandez et al., 2011). As such, these findings should be interpreted with caution until subsequent research with larger samples is conducted.

For the final research question, two competing hypotheses were proposed. Findings were consistent with the first of these and suggested that standard BPT actually had a large pre-to-post treatment, rather than no, effect on caregiver's emotion regulation impairment and medium effects on caregiver's emotion socialization practices. Previous research has demonstrated similar generalization effects of standard BPT programs with regard to improved marital functioning, increased parental efficacy (Pisterman et al., 1992), and decreased parental depression and stress (Sanders, Markie-Dadds, Tully, & Bor, 2000). Furthermore, these results suggest standard BPT may produce pre-to-post treatment effect sizes of equal or greater magnitude with regard to caregiver emotion regulation and emotion socialization practices than an intervention program designed to explicitly address parental emotion socialization practices (Havighurst, Wilson, Harley, Prior, & Kehoe, 2010) or a parent training program with an added emotion socialization component designed for school-age children with ADHD (Herbert et al., 2013). The current study's findings are the first, to our knowledge, to demonstrate that standard BPT, while not explicitly addressing caregiver emotion regulation or emotion socialization practices, may lead to improvements in both of these realms.

As with all research, the findings of this study must be interpreted in light of its limitations, including that this is a relatively small sample of low income families in particular. Confidence in the pattern of findings, including effect size data, will be enhanced when

examined with larger samples and a broader range of family demographics (Kraemer, Mintz, Noda, Tinklenberg, & Yesavage, 2006). In addition, number of weeks and sessions to complete treatment served as proxies of caregiver's capacity to effectively navigate BPT in the context of stress and how caregivers' emotion regulation impacts how quickly skill mastery occurs. As such, larger sample sizes will also afford more statistical power to consider other variables that may shape the link between efficiency of services and caregiver emotion regulation, including more direct markers of family stress. Third, existing evidence suggests the need to examine emotion socialization from culturally specific contexts (McCord & Raval, 2015; Nelson et al., 2013). Differences by specific races and/or ethnicities were not examined in the current pilot sample given more statistical power would be necessary to disentangle the interrelationships in the context of variability within and between families.

Beyond issues related to sample size and power, this study predominantly relied on caregiver self-report and traditional pre-and post-treatment assessments. More nuanced investigation of the research questions could capitalize on innovations in assessment, design, and analysis, such as ecological momentary assessment or assessing events as they occur and within the natural environment in which they are occurring (Stone & Shiffman, 2002). These methods would provide an opportunity to track changes in parental emotional regulation and socialization as families progress through each BPT skill and phase of treatment. Such data intensive methods

would, in turn, lend themselves well to person-oriented data analytic approaches (von Eye, Bergman, & Hsieh, 2015), which would move the plan of analyses beyond a linear examination of covariation among variables in a population (e.g., effect of caregiver emotion regulation and socialization on BPT) to the examination of profiles (i.e., relative level and shape of trajectories) of subgroups of families (e.g., caregivers with more or less adaptive emotion regulation and socialization) to afford the opportunity to capture the likely dynamic and multidimensional interrelationship between emotion regulation, socialization and the efficacy and efficiency of BPT. That said, more traditional variable oriented approaches could also be optimized using multiple methods of assessment (e.g., diagnostic interviewing, observation of parent-child interaction), as well as analysis of simple (e.g., parental emotion regulation mediates the link between BPT and child outcomes) and serial (e.g., caregiver emotion regulation and socialization impact parental mastery of skills in BPT which, in turn, impacts the resultant change in the parent child relationship and, ultimately, the efficacy and efficiency of services) mediation (Baron & Kenny, 1986; Koning, Maric, MacKinnon, & M, 2015; Preacher & Hayes, 2008).

Strengths of this study also merit attention. First, this study represents a first step toward examining parental emotional regulation and emotion socialization as a potential mechanism of action in standard BPT. Such work is critical to understanding how and why BPT produces and sustains desired outcomes, including child behavior change and efficient service delivery models

(NIH, 2016). This enhanced understanding will begin to better inform how common dimensions, including emotion regulation and socialization practices, may serve as mechanisms through which variability in the efficacy of BPT in general and with low income families in particular occurs. In turn, such work begins to inform when and if adaptations to BPT may (or may not) be necessary to optimize child and family outcomes. In addition, this study investigated the potential role of emotion regulation and socialization with low income families, who are more likely than higher income families to have a child with a DBD, yet less likely to have the opportunity to benefit from BPT (Deković et al., 2011; Lundahl et al., 2006). As such, examining the role of caregiver emotion regulation and socialization behaviors in low income families in particular may allow us to maximize the potency and efficiency of BPT for delivery with an at-risk, yet underserved group.

In conclusion, these preliminary findings suggest the study of parental emotion regulation and socialization may inform our understanding of variability in BPT treatment outcomes within low income families of young children with DBDs. In addition to further research, the translation of these promising findings into practice will require several clinical considerations. First, optimization of BPT with low income families will require further understanding of if and when baseline emotion regulation reaches a level of impairment that it has the potential to threaten the efficacy of standard BPT and thus, warrants emotion regulation focused treatment prior to

engaging in BPT. For example, treatment may be informed by an intake assessment that not only includes measures of parenting, the parent-child relationship, and child disruptive behaviors, but parental emotion regulation and socialization as well. Information from such measures may assist with more functional models of assessment (see O'Brien, W., Haynes, S., & Kaholokula, J.K., 2015; Scotti, Morris, McNeil, & Hawkins, 1996; Silverman & Kearney, 1991, for reviews) by facilitating a more idiographic, person-centered clinical approach to BPT in which the factors that maintain and/or exacerbate symptomatology, as well as impact progress through treatment, may help to predict which families require prior parent-focused treatment to more explicitly target parent emotion regulation and socialization, in order to benefit from standard BPT. Next, it is the case that both emotion regulation and socialization are also associated with internalizing problems in children and internalizing and externalizing problems co-occur (e.g., Han & Shaffer, 2013; Kuijpers, Kleinjan, Engels, Stone, & Otten, 2014; Suveg, Shaffer, Morelen, & Thomassin, 2011). Consistent with moving toward transdiagnostic constructs, greater understanding of the extent to which emotion regulation and socialization may serve as common mechanisms through which BPT impacts both internalizing and externalizing outcomes holds promise for optimizing the efficacy and cost-effectiveness of front-line treatment services. Finally, clinicians and clinical researchers will need to continue to consider the potential for aspects of traditional BPT to be at odds with aspects of adaptive emotion socialization. Specifically, BPT teaches caregivers

to effortfully ignore tantrums, whining, and other displays of negative emotion typical of children presenting with clinical levels of non-compliance. As such, it may be that the most adaptive emotion socialization behaviors for this subset of children may be different than the general population.



Table 1

*Demographic and Behavioral Measures of sample at pre-assessment (n = 19).*

| <i>Measure</i>              | <i>TE-HNC</i> |          |           | <i>HNC</i> |          |           |
|-----------------------------|---------------|----------|-----------|------------|----------|-----------|
|                             | <i>%</i>      | <i>M</i> | <i>SD</i> | <i>%</i>   | <i>M</i> | <i>SD</i> |
| Child Demographics          |               |          |           |            |          |           |
| Age (Years)                 |               | 5.52     | 1.14      |            | 5.84     | 1.95      |
| Gender (% Male)             | 44.4          |          |           | 50         |          |           |
| Ethnicity/Race (% Minority) | 45.5          |          |           | 50         |          |           |
| Caregiver Demographics      |               |          |           |            |          |           |
| Age (Years)                 |               | 35.30    | 6.54      |            | 36.40    | 10.68     |
| Gender (% Female)           | 88.90         |          |           | 90         |          |           |
| Ethnicity/Race (% Minority) | 22.20         |          |           | 40         |          |           |
| Marital Status              |               |          |           |            |          |           |
| Single                      | 11.1          |          |           | 20         |          |           |
| Married/ common-law         | 44.4          |          |           | 50         |          |           |
| Divorced/separated          | 44.4          |          |           | 30         |          |           |
| Education                   |               |          |           |            |          |           |
| Less than High School       | 11.1          |          |           | 10         |          |           |
| High School/ GED            | --            |          |           | 10         |          |           |
| Some College                | 22.2          |          |           | 50         |          |           |
| College                     | 33.3          |          |           | 10         |          |           |
| Advanced Degree             | 33.3          |          |           | 20         |          |           |
| Employment Status           |               |          |           |            |          |           |
| Unemployed                  | 22.2          |          |           | 30         |          |           |
| Part-Time                   | 44.4          |          |           | 30         |          |           |
| Full-Time                   | 33.3          |          |           | 40         |          |           |
| Child Behavior              |               |          |           |            |          |           |
| ECBI                        |               |          |           |            |          |           |
| Intensity                   |               | 156.89   | 26.42     |            | 139.70   | 27.69     |
| Problem                     |               | 23.67    | 5.70      |            | 22.30    | 5.81      |
| Caregiver Behavior          |               |          |           |            |          |           |
| CCNES                       |               |          |           |            |          |           |
| Reaction to Child Emotions  |               | 94.78    | 28.65     |            | 92.90    | 15.26     |
| Coaching of Child Emotions  |               | 195.50   | 34.37     |            | 195.80   | 30.86     |
| DERS                        |               |          |           |            |          |           |
| Nonacceptance               |               | 10.33    | 4.36      |            | 10.10    | 3.28      |
| Goals                       |               | 12.89    | 5.71      |            | 11.50    | 3.95      |
| Impulse                     |               | 9.56     | 4.42      |            | 10.20    | 2.86      |
| Aware                       |               | 13.33    | 4.69      |            | 14.90    | 3.70      |
| Strategies                  |               | 11.89    | 5.37      |            | 12.10    | 4.63      |
| Clarity                     |               | 8.78     | 3.90      |            | 9.20     | 2.44      |

*Note.* Technology-Enhanced Helping the Noncompliant Child (TE-HNC); TE-HNC n=9, HNC n= 10. There were no significant differences between groups on all of the above-mentioned variables using t-test or  $\chi^2$ .

Table 2

*Correlations Among Main Study Variables (n = 19).*

| Variables |                                     | 1  | 2     | 3    | 4    | 5    |
|-----------|-------------------------------------|----|-------|------|------|------|
| 1         | ECBI Total Problem                  | -- | .87** | -.09 | .21  | .14  |
| 2         | ECBI Intensity                      |    | --    | -.11 | -.01 | .16  |
| 3         | DERS Total Score                    |    |       | --   | .18  | -.23 |
| 4         | Parental Reaction to Child Emotions |    |       |      | --   | -.45 |
| 5         | Parental Coaching of Child Emotions |    |       |      |      | --   |

*Notes.* \* $p < .05$ ; \*\* $p < .01$

Table 3

*Multiple Regression Predicting Baseline ECBI Intensity and Problem from Baseline DERS, Parental Reaction to Child Emotions, and Parental Coaching of Child Emotions (n = 19).*

| Variable                                | ECBI Intensity |                 |         |                 | ECBI Problem |                 |         |                 |
|---|----------------|-----------------|---------|-----------------|--------------|-----------------|---------|-----------------|
|   | B              | SE <sub>B</sub> | $\beta$ | $\eta^2_{\rho}$ | B            | SE <sub>B</sub> | $\beta$ | $\eta^2_{\rho}$ |
| Intercept                               | 110.00         | 77.49           |         |                 | 6.94         | 15.11           |         |                 |
| DERS Total Score                        | -.13           | .38             | -.09    | -.08            | -.03         | .07             | -.09    | -.09            |
| Parental Reactions to<br>Child Emotions | .17            | .25             | .19     | .17             | .09          | .07             | .35     | .31             |
| Parental Coaching of<br>Child Emotions  | .14            | .36             | .11     | .10             | .05          | .05             | .27     | .24             |

Note. \* $p < .05$ ; \*\* $p < .01$

Table 4  
*Correlations Among Main Study Variables and Efficiency of Services (n = 15).*

|   | Variables                           | Number of Sessions | Number of Weeks |
|---|-------------------------------------|--------------------|-----------------|
| 1 | ECBI Total Problem                  | .08                | -.06            |
| 2 | ECBI Intensity                      | .01                | -.03            |
| 3 | DERS Total Score                    | .43                | .65**           |
| 4 | Parental Reaction to Child Emotions | -.18               | -.16            |
| 5 | Parental Coaching of Child Emotions | -.05               | -.03            |

*Note.* \* $p < .05$ ; \*\* $p < .01$

Table 5

*Hierarchical Multiple Regression Predicting Post-Assessment ECBI Intensity from Baseline ECBI Intensity, DERS, Parental Reaction to Child Emotions, and Parental Coaching of Child Emotions (n = 15).*

| Variable                             | Model 1 |         | Model 2 |         |            |
|--------------------------------------|---------|---------|---------|---------|------------|
|                                      | B       | $\beta$ | B       | $\beta$ | $\eta_p^2$ |
| Constant                             | 82.92*  |         | 81.27   |         |            |
| Baseline ECBI Intensity              | .03     | .04     | .02     | .03     | .03        |
| DERS Total Score                     |         |         | .11     | .11     | .10        |
| Parental Reactions to Child Emotions |         |         | -.04    | -.05    | -.04       |
| Parental Coaching of Child Emotions  |         |         | .00     | .00     | .00        |
| $R^2$                                | .00     |         | .02     |         |            |
| $F$                                  | .03     |         | .04     |         |            |
| $\Delta R^2$                         | .00     |         | .01     |         |            |
| $\Delta F$                           | .01     |         | .04     |         |            |

Note. \* $p < .05$ ; \*\* $p < .01$

Table 6

*Hierarchical Multiple Regression Predicting Post-Assessment ECBI Problem from Baseline ECBI Problem, DERS, Parental Reaction to Child Emotions, and Parental Coaching of Child Emotions (n = 15).*

| Variable                             | Model 1 |         | Model 2 |         |            |
|--------------------------------------|---------|---------|---------|---------|------------|
|                                      | B       | $\beta$ | B       | $\beta$ | $\eta_p^2$ |
| Constant                             | 10.68   |         | 7.98    |         |            |
| Baseline ECBI Problem                | -.14    | -.10    | -.01    | -.01    | -.01       |
| DERS Total Score                     |         |         | .06     | .17     | .17        |
| Parental Reactions to Child Emotions |         |         | -.09    | -.28    | -.22       |
| Parental Coaching of Child Emotions  |         |         | .02     | .10     | .09        |
| $R^2$                                | .01     |         | .14     |         |            |
| $F$                                  | .13     |         | .40     |         |            |
| $\Delta R^2$                         | .01     |         | .13     |         |            |
| $\Delta F$                           | .13     |         | .49     |         |            |

Note. N= 15. \* $p < .05$ ; \*\* $p < .01$

Table 7

*Logistic Regression Predicting Likelihood of Drop-Out Status based on Baseline ECBI Intensity, Problem, DERS, Parental Reaction to Child Emotions, and Parental Coaching of Child Emotions (n = 19).*

| <i>Measure</i>                      | <i>B</i> | <i>SE</i> | <i>Wald</i> | <i>p</i> | <i>Odds Ratio</i> |
|-------------------------------------|----------|-----------|-------------|----------|-------------------|
| ECBI Intensity                      | .04      | .07       | .36         | .55      | 1.04              |
| ECBI Problem                        | .36      | .37       | .93         | .34      | 1.43              |
| DERS                                | -.10     | .09       | 1.67        | .28      | .90               |
| Parental Reaction to Child Emotions | -.06     | .05       | 1.15        | .28      | .94               |
| Parental Coaching of Child Emotions | -.05     | .06       | .72         | .40      | .95               |

*Note.* The Wald test is used to assess the significance of each coefficient in the model and is calculated by dividing the coefficient by its standard error.

Table 8

*Changes in Mean (SD) DERS, Parental Reaction to Child Emotions, and Parental Coaching of Child Emotions Scores at Pre- and Post-Assessment (n = 15).*

| <i>Measure</i>                         | Pre<br>M (SD)     | Post<br>M (SD) | t     | df | <i>p</i> |
|--|-------------------|----------------|-------|----|----------|
| DERS                                   | 71.73 (19.05)     | 57.60 (16.36)  | 3.20  | 14 | .006     |
| Parental Reaction to Child<br>Emotions | 97.14 (21.78)     | 82.14 (31.89)  | 2.12  | 13 | .054     |
| Parental Coaching of Child<br>Emotions | 193.63<br>(31.89) | 206.27 (28.28) | -2.01 | 14 | .065     |



## APPENDIX A: EYBERG CHILD BEHAVIOR INVENTORY

# ECBI™ Eyberg Child Behavior Inventory™

Parent Rating Form by Sheila Eyberg, PhD

Your Name \_\_\_\_\_ Relationship to Child \_\_\_\_\_ Today's Date \_\_\_\_/\_\_\_\_/\_\_\_\_

Child's Name \_\_\_\_\_ Child's Gender \_\_\_\_\_ Child's Date of Birth \_\_\_\_/\_\_\_\_/\_\_\_\_

**Directions:** Below are a series of phrases that describe children's behavior. Please (1) circle the number describing **how often** the behavior **currently** occurs with your child, and (2) circle either "yes" or "no" to indicate whether the behavior is **currently a problem for you**.

For example, if seldom, you would circle the 2 in response to the following statement:

|                              | Never | Seldom | Sometimes | Often | Always |   | Is this a<br>problem<br>for you? |     |      |
|------------------------------|-------|--------|-----------|-------|--------|---|----------------------------------|-----|------|
| 1. Refuses to eat vegetables | 1     | (2)    | 3         | 4     | 5      | 6 | 7                                | YES | (NO) |

Circle only one response for each statement, and respond to all statements. **DO NOT ERASE!** If you need to change an answer, make an "X" through the incorrect answer and circle the correct response. For example:

|                              |   |     |     |   |   |   |   |     |      |
|------------------------------|---|-----|-----|---|---|---|---|-----|------|
| 1. Refuses to eat vegetables | 1 | (2) | X 3 | 4 | 5 | 6 | 7 | YES | (NO) |
|------------------------------|---|-----|-----|---|---|---|---|-----|------|

|   | How often does this occur with your child? |        |           |       |        |   |   | Is this a<br>problem<br>for you? |    |
|---|--|--------|-----------|-------|--------|---|---|----------------------------------|----|
|   | Never                                      | Seldom | Sometimes | Often | Always |   |   |                                  |    |
| 1. Dawdles in getting dressed                       | 1  | 2      | 3         | 4     | 5      | 6 | 7 | YES                              | NO |
| 2. Dawdles or lingers at mealtime                   | 1  | 2      | 3         | 4     | 5      | 6 | 7 | YES                              | NO |
| 3. Has poor table manners                           | 1  | 2      | 3         | 4     | 5      | 6 | 7 | YES                              | NO |
| 4. Refuses to eat food presented                    | 1  | 2      | 3         | 4     | 5      | 6 | 7 | YES                              | NO |
| 5. Refuses to do chores when asked                  | 1  | 2      | 3         | 4     | 5      | 6 | 7 | YES                              | NO |
| 6. Slow in getting ready for bed                    | 1  | 2      | 3         | 4     | 5      | 6 | 7 | YES                              | NO |
| 7. Refuses to go to bed on time                     | 1  | 2      | 3         | 4     | 5      | 6 | 7 | YES                              | NO |
| 8. Does not obey house rules on own                 | 1  | 2      | 3         | 4     | 5      | 6 | 7 | YES                              | NO |
| 9. Refuses to obey until threatened with punishment | 1  | 2      | 3         | 4     | 5      | 6 | 7 | YES                              | NO |
| 10. Acts defiant when told to do something          | 1  | 2      | 3         | 4     | 5      | 6 | 7 | YES                              | NO |
| 11. Argues with parents about rules                 | 1  | 2      | 3         | 4     | 5      | 6 | 7 | YES                              | NO |
| 12. Gets angry when doesn't get own way             | 1  | 2      | 3         | 4     | 5      | 6 | 7 | YES                              | NO |
| 13. Has temper tantrums                             | 1  | 2      | 3         | 4     | 5      | 6 | 7 | YES                              | NO |
| 14. Sassses adults                                  | 1  | 2      | 3         | 4     | 5      | 6 | 7 | YES                              | NO |
| 15. Whines  | 1  | 2      | 3         | 4     | 5      | 6 | 7 | YES                              | NO |

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**OVER →**

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|   | How often does this occur with your child? |        |           |       |        |   |   | Is this a problem for you? |    |
|---|--|--------|-----------|-------|--------|---|---|----------------------------|----|
|   | Never                                      | Seldom | Sometimes | Often | Always |   |   | YES                        | NO |
| 16. Cries easily                                | 1  | 2      | 3         | 4     | 5      | 6 | 7 | YES                        | NO |
| 17. Yells or screams                            | 1  | 2      | 3         | 4     | 5      | 6 | 7 | YES                        | NO |
| 18. Hits parents                                | 1  | 2      | 3         | 4     | 5      | 6 | 7 | YES                        | NO |
| 19. Destroys toys and other objects             | 1  | 2      | 3         | 4     | 5      | 6 | 7 | YES                        | NO |
| 20. Is careless with toys and other objects     | 1  | 2      | 3         | 4     | 5      | 6 | 7 | YES                        | NO |
| 21. Steals                                      | 1  | 2      | 3         | 4     | 5      | 6 | 7 | YES                        | NO |
| 22. Lies  | 1  | 2      | 3         | 4     | 5      | 6 | 7 | YES                        | NO |
| 23. Teases or provokes other children           | 1  | 2      | 3         | 4     | 5      | 6 | 7 | YES                        | NO |
| 24. Verbally fights with friends own age        | 1  | 2      | 3         | 4     | 5      | 6 | 7 | YES                        | NO |
| 25. Verbally fights with sisters and brothers   | 1  | 2      | 3         | 4     | 5      | 6 | 7 | YES                        | NO |
| 26. Physically fights with friends own age      | 1  | 2      | 3         | 4     | 5      | 6 | 7 | YES                        | NO |
| 27. Physically fights with sisters and brothers | 1  | 2      | 3         | 4     | 5      | 6 | 7 | YES                        | NO |
| 28. Constantly seeks attention                  | 1  | 2      | 3         | 4     | 5      | 6 | 7 | YES                        | NO |
| 29. Interrupts                                  | 1  | 2      | 3         | 4     | 5      | 6 | 7 | YES                        | NO |
| 30. Is easily distracted                        | 1  | 2      | 3         | 4     | 5      | 6 | 7 | YES                        | NO |
| 31. Has short attention span                    | 1  | 2      | 3         | 4     | 5      | 6 | 7 | YES                        | NO |
| 32. Fails to finish tasks or projects           | 1  | 2      | 3         | 4     | 5      | 6 | 7 | YES                        | NO |
| 33. Has difficulty entertaining self alone      | 1  | 2      | 3         | 4     | 5      | 6 | 7 | YES                        | NO |
| 34. Has difficulty concentrating on one thing   | 1  | 2      | 3         | 4     | 5      | 6 | 7 | YES                        | NO |
| 35. Is overactive or restless                   | 1  | 2      | 3         | 4     | 5      | 6 | 7 | YES                        | NO |
| 36. Wets the bed                                | 1  | 2      | 3         | 4     | 5      | 6 | 7 | YES                        | NO |

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subtotals

Subtotals  
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| Scores    | Raw score | T score | Exceeds Cutoff (✓) |
|-----------|-----------|---------|--------------------|
| Intensity |           |         |                    |
| Problem   |           |         |                    |

Comments:

## APPENDIX B: DIFFICULTIES IN EMOTION REGULATION SCALE

Family ID: \_\_\_\_\_

APPROVED - IRB, UNC-CH

DEERS

MAY 20 2010

INSTRUCTIONS: Please indicate how often the following statements apply to you by writing the appropriate number from the scale below on the line beside each item.

| 1-----                  | 2-----   | 3-----                          | 4-----                       | 5-----                     |
|-------------------------|--|---------------------------------|------------------------------|----------------------------|
| almost never<br>(0-10%) | sometimes<br>(11-35%)  | about half the time<br>(36-65%) | most of the time<br>(66-90%) | almost always<br>(91-100%) |
| _____                   | 1) I am clear about my feelings.   |                                 |                              |                            |
| _____                   | 2) I pay attention to how I feel.  |                                 |                              |                            |
| _____                   | 3) I experience my emotions as overwhelming and out of control.            |                                 |                              |                            |
| _____                   | 4) I have no idea how I am feeling.  |                                 |                              |                            |
| _____                   | 5) I have difficulty making sense out of my feelings.                      |                                 |                              |                            |
| _____                   | 6) I am attentive to my feelings.  |                                 |                              |                            |
| _____                   | 7) I know exactly how I am feeling.  |                                 |                              |                            |
| _____                   | 8) I care about what I am feeling.   |                                 |                              |                            |
| _____                   | 9) I am confused about how I feel.   |                                 |                              |                            |
| _____                   | 10) When I'm upset, I acknowledge my emotions.                             |                                 |                              |                            |
| _____                   | 11) When I'm upset, I become angry with myself for feeling that way.       |                                 |                              |                            |
| _____                   | 12) When I'm upset, I become embarrassed for feeling that way.             |                                 |                              |                            |
| _____                   | 13) When I'm upset, I have difficulty getting work done.                   |                                 |                              |                            |
| _____                   | 14) When I'm upset, I become out of control.                               |                                 |                              |                            |
| _____                   | 15) When I'm upset, I believe that I will remain that way for a long time. |                                 |                              |                            |
| _____                   | 16) When I'm upset, I believe that I'll end up feeling very depressed.     |                                 |                              |                            |
| _____                   | 17) When I'm upset, I believe that my feelings are valid and important.    |                                 |                              |                            |
| _____                   | 18) When I'm upset, I have difficulty focusing on other things.            |                                 |                              |                            |
| _____                   | 19) When I'm upset, I feel out of control.                                 |                                 |                              |                            |
| _____                   | 20) When I'm upset, I can still get things done.                           |                                 |                              |                            |
| _____                   | 21) When I'm upset, I feel ashamed with myself for feeling that way.       |                                 |                              |                            |

|              |           |                     |                  |               |
|--------------|-----------|---------------------|------------------|---------------|
| 1-----       | 2-----    | 3-----              | 4-----           | 5-----        |
| almost never | sometimes | about half the time | most of the time | almost always |
| (0-10%)      | (11-35%)  | (36-65%)            | (66-90%)         | (91-100%)     |

---

- \_\_\_\_\_ 22) When I'm upset, I know that I can find a way to eventually feel better.
- \_\_\_\_\_ 23) When I'm upset, I feel like I am weak.
- \_\_\_\_\_ 24) When I'm upset, I feel like I can remain in control of my behaviors.
- \_\_\_\_\_ 25) When I'm upset, I feel guilty for feeling that way.
- \_\_\_\_\_ 26) When I'm upset, I have difficulty concentrating.
- \_\_\_\_\_ 27) When I'm upset, I have difficulty controlling my behaviors.
- \_\_\_\_\_ 28) When I'm upset, I believe that there is nothing I can do to make myself feel better.
- \_\_\_\_\_ 29) When I'm upset, I become irritated with myself for feeling that way.
- \_\_\_\_\_ 30) When I'm upset, I start to feel very bad about myself.
- \_\_\_\_\_ 31) When I'm upset, I believe that wallowing in it is all I can do.
- \_\_\_\_\_ 32) When I'm upset, I lose control over my behaviors.
- \_\_\_\_\_ 33) When I'm upset, I have difficulty thinking about anything else.
- \_\_\_\_\_ 34) When I'm upset, I take time to figure out what I'm really feeling.
- \_\_\_\_\_ 35) When I'm upset, it takes me a long time to feel better.
- \_\_\_\_\_ 36) When I'm upset, my emotions feel overwhelming.

# APPENDIX C: COPING WITH CHILDREN'S NEGATIVE EMOTIONS SCALE

APPROVED FOR UNC-CH Family ID: \_\_\_\_\_

MAY 20 2010

## 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 my child 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 |

Family ID: \_\_\_\_\_

- |   |               |
|---|---------------|
| c. tell my child not to make a 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<br>(such as relaxing so it won't hurt or taking deep breaths) | 1 2 3 4 5 6 7 |
5. If my child is going 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<br>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<br>at the friend's house without me wasn't scary (e.g., take a favorite<br>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 my child that he/she doesn't stop that he/she<br>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 reaction   | 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<br>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<br>ready for his/her turn (e.g., to do some warm-ups and not to<br>look at the audience) | 1 2 3 4 5 6 7 |
| b. suggest that my child think about something relaxing   | 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<br>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 a friend, I would:

Family ID: \_\_\_\_\_

- |  |               |
|--|---------------|
| 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 |
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 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 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 |

Family ID: \_\_\_\_\_

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., 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 |



APPENDIX D: MORRIS AND DESHON (2002) EQUATION 8

$$\delta_{RM} = \frac{\mu_D}{\sigma \sqrt{2(1+\rho)}}$$

## REFERENCES

- Aguinis, H., Gottfredson, R. K., & Joo, H. (2013). Best-Practice Recommendations for Defining, Identifying, and Handling Outliers. *Organizational Research Methods*, 16(2), 270–301. <http://doi.org/10.1177/1094428112470848>
- American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders: DSM-5*. Washington, DC: American Psychiatric Association.
- August, G. J., Realmuto, G. M., Iii, A. W. M., Nugent, S. M., & Crosby, R. (1996). Prevalence of ADHD and comorbid disorders among elementary school children screened for disruptive behavior. *Journal of Abnormal Child Psychology*, 24(5), 571–595. <http://doi.org/10.1007/BF01670101>
- Baron, R. M., & Kenny, D. A. (1986). The moderator–mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, 51(6), 1173–1182. <http://doi.org/10.1037/0022-3514.51.6.1173>
- Brophy-Herb, H. E., Stansbury, K., Bocknek, E., & Horodyski, M. A. (2012). Modeling maternal emotion-related socialization behaviors in a low-income sample: Relations with toddlers' self-regulation. *Early Childhood Research Quarterly*, 27(3), 352–364. <http://doi.org/10.1016/j.ecresq.2011.11.005>
- Burns, G. L., Leonard, G., Patterson, D. R., Nussbaum, B. R., & Parker, C. M. (1991). Disruptive behaviors in an outpatient pediatric population: Additional standardization data on the Eyberg Child Behavior Inventory. *Psychological Assessment: A Journal of Consulting and Clinical Psychology*, 3(2), 202–207. <http://doi.org/10.1037/1040-3590.3.2.202>
- Burns, G. L., & Patterson, D. R. (1991). Factor Structure of the Eyberg Child Behavior Inventory: Unidimensional or Multidimensional Measure of Disruptive Behavior? *Journal of Clinical Child Psychology*, 20(4), 439–444. [http://doi.org/10.1207/s15374424jccp2004\\_13](http://doi.org/10.1207/s15374424jccp2004_13)
- Canli, T., Ferri, J., & Duman, E. A. (2009). Genetics of emotion regulation. *Neuroscience*, 164(1), 43–54. <http://doi.org/10.1016/j.neuroscience.2009.06.049>
- Cavanagh, M., Quinn, D., Duncan, D., Graham, T., & Balbuena, L. (2014). Oppositional Defiant Disorder Is Better Conceptualized as a Disorder of Emotional Regulation. *Journal of Attention Disorders*, 1087054713520221. <http://doi.org/10.1177/1087054713520221>
- Chorpita, B. F., Daleiden, E. L., Ebesutani, C., Young, J., Becker, K. D., Nakamura, B. J., ... Starace, N. (2011). Evidence-Based Treatments for Children and Adolescents: An Updated Review of Indicators of Efficacy and Effectiveness. *Clinical Psychology: Science and Practice*, 18(2), 154–172. <http://doi.org/10.1111/j.1468-2850.2011.01247.x>

- Chronis-Tuscano, A., Clarke, T. L., O'Brien, K. A., Raggi, V. L., Diaz, Y., Mintz, A. D., ... Lewinsohn, P. (2013). Development and preliminary evaluation of an integrated treatment targeting parenting and depressive symptoms in mothers of children with attention-deficit/hyperactivity disorder. *Journal of Consulting and Clinical Psychology, 81*(5), 918–925. <http://doi.org/10.1037/a0032112>
- Cohen, J., Cohen, P., West, S. G., & Aiken, L. S. (2013). *Applied Multiple Regression/Correlation Analysis for the Behavioral Sciences*. Routledge.
- Cuthbert, B. N., & Insel, T. R. (2013). Toward the future of psychiatric diagnosis: the seven pillars of RDoC. *BMC Medicine, 11*, 126. <http://doi.org/10.1186/1741-7015-11-126>
- Deković, M., Slagt, M. I., Asscher, J. J., Boendermaker, L., Eichelsheim, V. I., & Prinzie, P. (2011). Effects of early prevention programs on adult criminal offending: A meta-analysis. *Clinical Psychology Review, 31*(4), 532–544. <http://doi.org/10.1016/j.cpr.2010.12.003>
- Denham, S. A., Workman, E., Cole, P. M., Weissbrod, C., Kendziora, K. T., & Zahn-Waxler, C. (2000). Prediction of externalizing behavior problems from early to middle childhood: The role of parental socialization and emotion expression. *Development and Psychopathology, null*(01), 23–45. <http://doi.org/null>
- Denham, S., & Kochanoff, A. T. (2002). Parental Contributions to Preschoolers' Understanding of Emotion. *Marriage & Family Review, 34*(3-4), 311–343. [http://doi.org/10.1300/J002v34n03\\_06](http://doi.org/10.1300/J002v34n03_06)
- Dumas, J. E., Begle, A. M., French, B., & Pearl, A. (2010). Effects of Monetary Incentives on Engagement in the PACE Parenting Program. *Journal of Clinical Child and Adolescent Psychology : The Official Journal for the Society of Clinical Child and Adolescent Psychology, American Psychological Association, Division 53, 39*(3), 302–313. <http://doi.org/10.1080/15374411003691792>
- Duncombe, M. E., Havighurst, S. S., Holland, K. A., & Frankling, E. J. (2012). The Contribution of Parenting Practices and Parent Emotion Factors in Children at Risk for Disruptive Behavior Disorders. *Child Psychiatry & Human Development, 43*(5), 715–733. <http://doi.org/10.1007/s10578-012-0290-5>
- Dunsmore, J. C., Booker, J. A., & Ollendick, T. H. (2013). Parental Emotion Coaching and Child Emotion Regulation as Protective Factors for Children with Oppositional Defiant Disorder. *Social Development, 22*(3), 444–466. <http://doi.org/10.1111/j.1467-9507.2011.00652.x>
- Eisenberg, N., Cumberland, A., & Spinrad, T. L. (1998). Parental Socialization of Emotion. *Psychological Inquiry, 9*(4), 241–273.

- Eisenberg, N., & Fabes, R. A. (1994). Mothers' Reactions to Children's Negative Emotions: Relations to Children's Temperament and Anger Behavior. *Merrill-Palmer Quarterly*, 40(1), 138–156.
- Eisenberg, N., Fabes, R. A., Carlo, G., & Karbon, M. (1992). Emotional responsivity to others: Behavioral correlates and socialization antecedents. In N. Eisenberg & R. A. Fabes (Eds.), *Emotion and its regulation in early development* (pp. 57–73). San Francisco: Jossey-Bass.
- Evans, G. W., & English, K. (2002). The Environment of Poverty: Multiple Stressor Exposure, Psychophysiological Stress, and Socioemotional Adjustment. *Child Development*, 73(4), 1238–1248.
- Eyberg, S. M., & Pincus, D. (1999). *Eyberg Child Behavior Inventory & Sutter-Eyberg Student Behavior Inventory—Revised: Professional manual*. Odessa, FL: Psychological Assessment Resources.
- Fabes, R. A., Eisenberg, N., & Bernzweig, J. (2002). *Coping with Children's Negative Emotions Scale (CCNES): Description and Scoring*. Tempe, AZ.
- Fernandez, M. A., Butler, A. M. B., & Eyberg, S. M. (2011). Treatment Outcome for Low Socioeconomic Status African American Families in Parent-Child Interaction Therapy: A Pilot Study. *Child & Family Behavior Therapy*, 33(1), 32–48. <http://doi.org/10.1080/07317107.2011.545011>
- Forehand, R., Jones, D. J., & Parent, J. (2013). Behavioral parenting interventions for child disruptive behaviors and anxiety: What's different and what's the same. *Clinical Psychology Review*, 33(1), 133–145. <http://doi.org/10.1016/j.cpr.2012.10.010>
- Fox, H. C., Hong, K. A., & Sinha, R. (2008). Difficulties in emotion regulation and impulse control in recently abstinent alcoholics compared with social drinkers. *Addictive Behaviors*, 33(2), 388–394. <http://doi.org/10.1016/j.addbeh.2007.10.002>
- Funderburk, B. W., Ware, L. M., Altshuler, E., & Chaffin, M. (2008). Use and Feasibility of Telemedicine Technology in the Dissemination of Parent-Child Interaction Therapy. *Child Maltreatment*, 13(4), 377–382. <http://doi.org/10.1177/1077559508321483>
- Gardner, F., Montgomery, P., & Knerr, W. (2015). Transporting Evidence-Based Parenting Programs for Child Problem Behavior (Age 3–10) Between Countries: Systematic Review and Meta-Analysis. *Journal of Clinical Child & Adolescent Psychology*, 0(0), 1–14. <http://doi.org/10.1080/15374416.2015.1015134>
- Goldsmith, H. H., & Davidson, R. J. (2004). Disambiguating the Components of Emotion Regulation. *Child Development*, 75(2), 361–365. <http://doi.org/10.1111/j.1467-8624.2004.00678.x>

- Gratz, K. L., Lacroce, D. M., & Gunderson, J. G. (2006). Measuring changes in symptoms relevant to borderline personality disorder following short-term treatment across partial hospital and intensive outpatient levels of care. *Journal of Psychiatric Practice*, 12(3), 153–159.
- Gratz, K. L., & Roemer, L. (2004). Multidimensional Assessment of Emotion Regulation and Dysregulation: Development, Factor Structure, and Initial Validation of the Difficulties in Emotion Regulation Scale. *Journal of Psychopathology and Behavioral Assessment*, 26(1), 41–54. <http://doi.org/10.1023/B:JOBA.0000007455.08539.94>
- Han, Z. R., & Shaffer, A. (2013). The Relation of Parental Emotion Dysregulation to Children's Psychopathology Symptoms: The Moderating Role of Child Emotion Dysregulation. *Child Psychiatry and Human Development*, 44(5), 591–601. <http://doi.org/http://dx.doi.org.libproxy.lib.unc.edu/10.1007/s10578-012-0353-7>
- Havighurst, S. S., Wilson, K. R., Harley, A. E., Prior, M. R., & Kehoe, C. (2010). Tuning in to Kids: improving emotion socialization practices in parents of preschool children – findings from a community trial. *Journal of Child Psychology and Psychiatry*, 51(12), 1342–1350. <http://doi.org/10.1111/j.1469-7610.2010.02303.x>
- Herbert, S. D., Harvey, E. A., Roberts, J. L., Wichowski, K., & Lugo-Candelas, C. I. (2013). A Randomized Controlled Trial of a Parent Training and Emotion Socialization Program for Families of Hyperactive Preschool-Aged Children. *Behavior Therapy*, 44(2), 302–316. <http://doi.org/10.1016/j.beth.2012.10.004>
- Hinshaw, S. P. (2003). Impulsivity, Emotion Regulation, and Developmental Psychopathology: Specificity Versus Generality of Linkages. *Annals of the New York Academy of Sciences*, 1008(1), 149–159. <http://doi.org/10.1196/annals.1301.016>
- Hinshaw, S. P., & Lee, S. (2003). Oppositional defiant and conduct disorder. In E. J. Mash & R. A. Barkley (Eds.), *Child Psychopathology* (2nd ed., pp. 144–198). New York: Guilford Press.
- Howe, G. W., Beach, S. R. H., & Brody, G. H. (2010). Microtrial Methods for Translating Gene-environment Dynamics into Preventive Interventions. *Prevention Science*, 11(4), 343–354. <http://doi.org/10.1007/s11121-010-0177-2>
- Jones, D. J., Forehand, R., Cuellar, J., Kincaid, C., Parent, J., Fenton, N., & Goodrum, N. (2013). Harnessing innovative technologies to advance children's mental health: Behavioral parent training as an example. *Clinical Psychology Review*, 33(2), 241–252. <http://doi.org/10.1016/j.cpr.2012.11.003>
- Jones, D. J., Forehand, R., Cuellar, J., Parent, J., Honeycutt, A., Khavjou, O., ... Newey, G. A. (2014). Technology-Enhanced Program for Child Disruptive Behavior Disorders: Development and Pilot Randomized Control Trial. *Journal of Clinical Child & Adolescent Psychology*, 43(1), 88–101. <http://doi.org/10.1080/15374416.2013.822308>

- Jones, D. J., Forehand, R., McKee, L. G., Cuellar, J., & Kincaid, C. (2010). Behavioral Parent Training: Is There an “App” for That? *The Behavior Therapist / AABT*, 33(4), 72–77.
- Katz, L. F., & Windecker-Nelson, B. (2004). Parental Meta-Emotion Philosophy in Families with Conduct-Problem Children: Links with Peer Relations. *Journal of Abnormal Child Psychology*, 32(4), 385–98.  
<http://doi.org/http://dx.doi.org/10.1023/B:JACP.0000030292.36168.30>
- Koning, I. M., Maric, M., MacKinnon, D., & M, A. (2015). Effects of a combined parent–student alcohol prevention program on intermediate factors and adolescents’ drinking behavior: A sequential mediation model. *Journal of Consulting and Clinical Psychology*, 83(4), 719–727. <http://doi.org/10.1037/a0039197>
- Kraemer H, Mintz J, Noda A, Tinklenberg J, & Yesavage JA. (2006). CAution regarding the use of pilot studies to guide power calculations for study proposals. *Archives of General Psychiatry*, 63(5), 484–489. <http://doi.org/10.1001/archpsyc.63.5.484>
- Kuijpers, R. C. W. M., Kleinjan, M., Engels, R. C. M. E., Stone, L. L., & Otten, R. (2014). Child Self-report to Identify Internalizing and Externalizing Problems and the Influence of Maternal Mental Health. *Journal of Child and Family Studies*, 24(6), 1605–1614.  
<http://doi.org/10.1007/s10826-014-9964-x>
- Larson, K., Russ, S. A., Kahn, R. S., & Halfon, N. (2011). Patterns of Comorbidity, Functioning, and Service Use for US Children With ADHD, 2007. *Pediatrics*, 127(3), 462–470.  
<http://doi.org/10.1542/peds.2010-0165>
- Leijten, P., Dishion, T. J., Thomaes, S., Raaijmakers, M. A. J., Orobio de Castro, B., & Matthys, W. (2015). Bringing Parenting Interventions Back to the Future: How Randomized Microtrials May Benefit Parenting Intervention Efficacy. *Clinical Psychology: Science and Practice*, 22(1), 47–57. <http://doi.org/10.1111/cpsp.12087>
- Leijten, P., Raaijmakers, M. A. J., Castro, B. O. de, & Matthys, W. (2013). Does Socioeconomic Status Matter? A Meta-Analysis on Parent Training Effectiveness for Disruptive Child Behavior. *Journal of Clinical Child & Adolescent Psychology*, 42(3), 384–392.  
<http://doi.org/10.1080/15374416.2013.769169>
- Lengua, L. J. (2002). The Contribution of Emotionality and Self-Regulation to the Understanding of Children’s Response to Multiple Risk. *Child Development*, 73(1), 144–161. <http://doi.org/10.1111/1467-8624.00397>
- Loon, L. M. A. van, Granic, I., & Engels, R. C. M. E. (2011). The Role of Maternal Depression on Treatment Outcome for Children with Externalizing Behavior Problems. *Journal of Psychopathology and Behavioral Assessment*, 33(2), 178–186.  
<http://doi.org/10.1007/s10862-011-9228-7>

- Lorber, M. F., & Slep, A. M. S. (2005). Mothers' Emotion Dynamics and Their Relations With Harsh and Lax Discipline: Microsocial Time Series Analyses. *Journal of Clinical Child & Adolescent Psychology*, 34(3), 559–568. [http://doi.org/10.1207/s15374424jccp3403\\_11](http://doi.org/10.1207/s15374424jccp3403_11)
- Lundahl, B., Risser, H. J., & Lovejoy, M. C. (2006). A meta-analysis of parent training: Moderators and follow-up effects. *Clinical Psychology Review*, 26(1), 86–104. <http://doi.org/10.1016/j.cpr.2005.07.004>
- Maliken, A. C., & Katz, L. F. (2013). Exploring the Impact of Parental Psychopathology and Emotion Regulation on Evidence-Based Parenting Interventions: A Transdiagnostic Approach to Improving Treatment Effectiveness. *Clinical Child and Family Psychology Review*, 16(2), 173–186. <http://doi.org/10.1007/s10567-013-0132-4>
- McCabe, K. M., Yeh, M., Garland, A. F., Lau, A. S., & Chavez, G. (2005). The GANA Program: A Tailoring Approach to Adapting Parent Child Interaction Therapy for Mexican Americans. *Education and Treatment of Children*, 28(2), 111–129.
- McCord, B. L., & Raval, V. V. (2015). Asian Indian Immigrant and White American Maternal Emotion Socialization and Child Socio-Emotional Functioning. *Journal of Child and Family Studies*, 25(2), 464–474. <http://doi.org/10.1007/s10826-015-0227-2>
- McMahon, R. J., & Forehand, R. L. (2003). *Helping the Noncompliant Child: Family-Based Treatment for Oppositional Behavior*. Guilford Press.
- Merikangas, K. R., Nakamura, E. F., & Kessler, R. C. (2009). Epidemiology of mental disorders in children and adolescents. *Dialogues in Clinical Neuroscience*, 11(1), 7–20.
- Morris, A. S., Silk, J. S., Steinberg, L., Myers, S. S., & Robinson, L. R. (2007). The Role of the Family Context in the Development of Emotion Regulation. *Social Development*, 16(2), 361–388. <http://doi.org/10.1111/j.1467-9507.2007.00389.x>
- National Institute of Mental Health. (2008). *The National Institute of Mental Health strategic plan (NIH Publication No. 08-6368)*. Retrieved from <http://www.nimh.nih.gov/about/strategic-planning-reports/index.shtml>
- Nelson, J. A., Leerkes, E. M., Perry, N. B., O'Brien, M., Calkins, S. D., & Marcovitch, S. (2013). European-American and African-American Mothers' Emotion Socialization Practices Relate Differently to Their Children's Academic and Social-emotional Competence. *Social Development*, 22(3), 485–498. <http://doi.org/10.1111/j.1467-9507.2012.00673.x>
- NIH. (2016, June 16). PA-16-334: Science of Behavior Change: Use-inspired Basic Research to Optimize Behavior Change Interventions and Outcomes (Admin Supp). Retrieved from <http://grants.nih.gov/grants/guide/pa-files/PA-16-334.html>

- O'Brien, W., Haynes, S., & Kaholokula, J.K. (2015). Behavioral Assessment and the Functional Analysis. In C. Nezu & A. Nezu (Eds.), *Oxford Handbooks Online*. (pp. 44–61). New York: Oxford University Press.
- Ortiz, C., & Del Vecchio, T. (2013). Cultural Diversity: Do We Need a New Wake-Up Call for Parent Training? *Behavior Therapy*, 44(3), 443–458. <http://doi.org/10.1016/j.beth.2013.03.009>
- Pelham, W. E., Foster, E. M., & Robb, J. A. (2007). The Economic Impact of Attention-Deficit/Hyperactivity Disorder in Children and Adolescents. *Ambulatory Pediatrics*, 7(1, Supplement), 121–131. <http://doi.org/10.1016/j.ambp.2006.08.002>
- Piquero, A. R., Farrington, D. P., Welsh, B. C., Tremblay, R., & Jennings, W. G. (2009). Effects of early family/parent training programs on antisocial behavior and delinquency. *Journal of Experimental Criminology*, 5(2), 83–120. <http://doi.org/10.1007/s11292-009-9072-x>
- Pisterman, S., Firestone, P., McGrath, P., Goodman, J. T., Webster, I., Mallory, R., & Coffin, B. (1992). The effects of parent training on parenting stress and sense of competence. *Canadian Journal of Behavioural Science/Revue Canadienne Des Sciences Du Comportement*, 24(1), 41–58. <http://doi.org/10.1037/h0078699>
- Preacher, K. J., & Hayes, A. F. (2008). Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. *Behavior Research Methods*, 40(3), 879–891. <http://doi.org/10.3758/BRM.40.3.879>
- Prinz, R. ., & Jones, T. (2003). Family Based Interventions. In Cecilia Essau (Ed.), *Conduct and Oppositional Defiant Disorders: Epidemiology, Risk Factors, and Treatment*. Routledge.
- Rajwan, E., Chacko, A., Wymbs, B. T., & Wymbs, F. A. (2014). Evaluating Clinically Significant Change in Mother and Child Functioning: Comparison of Traditional and Enhanced Behavioral Parent Training. *Journal of Abnormal Child Psychology*, 42(8), 1407–1412. <http://doi.org/10.1007/s10802-014-9877-6>
- Reyno, S. M., & McGrath, P. J. (2006). Predictors of parent training efficacy for child externalizing behavior problems – a meta-analytic review. *Journal of Child Psychology and Psychiatry*, 47(1), 99–111. <http://doi.org/10.1111/j.1469-7610.2005.01544.x>
- Sanders, M. R., Markie-Dadds, C., Tully, L. A., & Bor, W. (2000). The Triple P-Positive Parenting Program: A comparison of enhanced, standard, and self-directed behavioral family intervention for parents of children with early onset conduct problems. *Journal of Consulting and Clinical Psychology*, 68(4), 624–640. <http://doi.org/10.1037/0022-006X.68.4.624>
- Schneider, B. W., Gerdes, A. C., Haack, L. M., & Lawton, K. E. (2013). Predicting Treatment Dropout in Parent Training Interventions for Families of School-Aged Children With



- ADHD. *Child & Family Behavior Therapy*, 35(2), 144–169.  
<http://doi.org/10.1080/07317107.2013.789365>
- Scotti, J. R., Morris, T. L., McNeil, C. B., & Hawkins, R. P. (1996). DSM–IV and disorders of childhood and adolescence: Can structural criteria be functional? *Journal of Consulting and Clinical Psychology*, 64(6), 1177–1191. <http://doi.org/10.1037/0022-006X.64.6.1177>
- Scott, S., Knapp, M., Henderson, J., & Maughan, B. (2001). Financial cost of social exclusion: follow up study of antisocial children into adulthood. *BMJ (Clinical Research Ed.)*, 323(7306), 191.
- Self-Brown, S., Valente, J. R., Wild, R. C., Whitaker, D. J., Galanter, R., Dorsey, S., & Stanley, J. (2012). Utilizing Benchmarking to Study the Effectiveness of Parent–Child Interaction Therapy Implemented in a Community Setting. *Journal of Child and Family Studies*, 21(6), 1041–1049. <http://doi.org/10.1007/s10826-012-9566-4>
- Shaw, D. S. (2013). Future Directions for Research on the Development and Prevention of Early Conduct Problems. *Journal of Clinical Child & Adolescent Psychology*, 42(3), 418–428. <http://doi.org/10.1080/15374416.2013.777918>
- Silverman, W. K., & Kearney, C. A. (1991). The nature and treatment of childhood anxiety. *Educational Psychology Review*, 3(4), 335–361. <http://doi.org/10.1007/BF01319936>
- Stone, A. A., & Shiffman, S. (2002). Capturing momentary, self-report data: A proposal for reporting guidelines. *Annals of Behavioral Medicine*, 24(3), 236–243. [http://doi.org/10.1207/S15324796ABM2403\\_09](http://doi.org/10.1207/S15324796ABM2403_09)
- Stormshak, E. A., Bierman, K. L., McMahon, R. J., & Lengua, L. J. (2000). Parenting Practices and Child Disruptive Behavior Problems in Early Elementary School. *Journal of Clinical Child Psychology*, 29(1), 17–29.
- Suveg, C., Shaffer, A., Morelen, D., & Thomassin, K. (2011). Links Between Maternal and Child Psychopathology Symptoms: Mediation Through Child Emotion Regulation and Moderation Through Maternal Behavior. *Child Psychiatry & Human Development*, 42(5), 507–520. <http://doi.org/10.1007/s10578-011-0223-8>
- Thompson, B. (2002). “Statistical,” “Practical,” and “Clinical”: How Many Kinds of Significance Do Counselors Need to Consider? *Journal of Counseling & Development*, 80(1), 64–71. <http://doi.org/10.1002/j.1556-6678.2002.tb00167.x>
- Thompson, R. A. (1994). Emotion Regulation: A Theme in Search of Definition. *Monographs of the Society for Research in Child Development*, 59(2-3), 25–52. <http://doi.org/10.1111/j.1540-5834.1994.tb01276.x>
- von Eye, A., Bergman, L. R., & Hsieh, C.-A. (2015). Person-Oriented Methodological Approaches. In *Handbook of Child Psychology and Developmental Science*. John Wiley

& Sons, Inc. Retrieved from  
<http://onlinelibrary.wiley.com/doi/10.1002/9781118963418.childpsy121/abstract>

Ware, L. M., McNeil, C. B., Masse, J., & Stevens, S. (2008). Efficacy of In-Home Parent-Child Interaction Therapy. *Child & Family Behavior Therapy*, 30(2), 99–126.  
<http://doi.org/10.1080/07317100802060302>

Zeman, J., Cassano, M. M. A., Perry-Parrish, C. M. A., & Stegall, S. (2006). Emotion Regulation in Children and Adolescents. [Review]. *Journal of Developmental*, 27(2), 155–168.