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Parental Cognitive Factors and Treatment Choices for Externalizing Behavior Problems

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**PARENTAL COGNITIVE FACTORS AND TREATMENT CHOICES FOR
EXTERNALIZING BEHAVIOR PROBLEMS**

A Dissertation submitted to
the Graduate College of
Marshall University

In partial fulfillment of
the requirements for the degree of
Doctor of Psychology

Psy.D. Program

by
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ABSTRACT

**PARENTAL COGNITIVE FACTORS AND TREATMENT CHOICES FOR
EXTERNALIZING BEHAVIOR PROBLEMS**

Danielle R. Hemmings

Understanding the relationship between parental cognitive variables and outcomes related to the treatment of externalizing disorders has received limited attention in the research literature. The present study was completed in order to determine whether the parental cognitive variables of self-efficacy or locus of control were related to the level of involvement parents had in addressing their child's behavior problems. It was hypothesized that a) parents with external locus of control would be likely to be less involved in their child's treatment than parents with a more internal locus of control and b) that parents with low parental self-efficacy would be likely to be less involved in their child's treatment than parents with high parental self-efficacy. It was also hypothesized that a) parents with an external locus of control would be more likely to talk about the steps they are taking in a negative way than parents with an internal locus of control and b) parents with low parental self-efficacy would be more likely to talk about the steps they are taking in a negative way than parents with high parental self-efficacy. Findings were mixed regarding the hypotheses. Results will be discussed in relationship to their implications for intervention.

Parental Cognitive Factors and Treatment Choices for Behavior Problems

Disruptive behavior disorders (DBDs) are the most commonly diagnosed disorders among children and adolescents (Stadler et al., 2008), and include attention-deficit/hyperactivity disorder, conduct disorder, and oppositional defiant disorder. When a child is diagnosed with a DBD, the diagnosing clinician typically outlines the treatments that are available for treating that disorder, which may include, but are not limited to, pharmacological treatment with stimulant medication, psychological treatments in the form of counseling, behavioral interventions, school-based interventions, or any combination of these. These treatments vary in the amount of involvement that is required by both the parent and child.

Approximately half of families with children diagnosed with attention-deficit/hyperactivity disorder fail to initiate or follow through with treatment (Krain et al., 2005). In other words, these families failed to follow through on one or all of the treatments offered to the child diagnosed with attention-deficit/hyperactivity disorder. Researchers have investigated several variables that relate to the initiation and pursuit of treatment for DBDs, including the role of treatment acceptability (Krain et al., 2005), gender, race, socioeconomic status, access to health insurance, access to routine pediatric care, and enrollment in special education (Bussing, Zima, Gary, & Garvan, 2003). Additional variables that have been examined include level of family stress, self-reported problems by adolescents (Zwaanswijk, Van der Ende, Verhaak, Bensing, & Verhulst, 2003), structural constraints, perceptions of mental health, and perceptions of services (Owens et al., 2002), as well as the parents' perceptions of their child's sick role (Bussing, Koro-Ljungberg, Gary, Mason, & Garvan, 2005).

It is also possible that other variables play a role in the parent's failure to follow through with treatment recommendations. Parents may not feel able to follow through with the

recommendations because of their own negative beliefs about their inability to help their child make changes to more effectively control their behavior. However, the research examining the impact of beliefs about one's parenting abilities on choice of treatment for DBDs appears very limited. Parental self-efficacy is one type of belief that may play an important role in treatment decisions. This variable, in particular, may be related to the parent's level of involvement in treatment because it appears to be the case that doubting one's efficacy often leads to less persistence in tasks (Cervone, 1989; Chang, 1997). Parents with low self-efficacy may be reluctant to engage in treatments that require high levels of involvement because of low levels of confidence in their ability to acquire new skills. Parents with high self-efficacy, who are more confident in their abilities, may be more willing to take on the challenges of treatments that require a lot of involvement and effort on their part (Chang, 1997).

Additionally, beliefs regarding locus of control (LOC) of the parent may also contribute to the level of involvement of the parent and their attitude about the steps they are taking to address the child's behavior problem. However, evidence of this relationship is mixed, with some studies finding no relationship between LOC and task persistence (Galejs & Hegland, 1982; Starnes & Zinser, 1983), whereas other research indicates that these two variables are related (Gordon, Jones, & Short, 1977). Given the documentation of the relationship between beliefs such as self-efficacy and LOC and task variables such as persistence or level of involvement and general attitude with which the parent discusses the steps he or she is taking to address the child's behaviors, an empirical investigation of such relationships in the treatment of DBDs may prove fruitful.

Overview of Attention-Deficit/Hyperactivity Disorder

Attention-deficit/hyperactivity disorder (ADHD) is perhaps the best known of the DBDs. It is characterized by disruptive behaviors, which include getting out of one's seat frequently, fidgeting or squirming in seat, and running or climbing about excessively (APA, 2000). Children diagnosed with ADHD exhibit four key symptoms: impulsivity, inattention, overarousal, and inability to delay gratification (Goldstein, 1999). These children act quickly, without considering the consequences of their actions or thinking of a possible alternative course of action. Additionally, children diagnosed with ADHD experience difficulty maintaining attention on one task for an extended period of time, especially when these tasks are rote and tedious (Goldstein, 1999). Compared to children with other psychiatric diagnoses, children with ADHD evidenced an inability to use feedback to enhance performance and a decrease in vigilance, or persisting over time on a task (Swaab-Barneveld et al., 2000).

Etiology of ADHD. To date, there has been no empirical evidence that a single conclusive cause explains the development of ADHD symptoms. However, it is likely that biological mechanisms play a role in the development of this disorder, as data indicates that ADHD does cluster in families (Petty et al., 2009), and twin studies suggest a heritability estimate ranging from 60-90% for ADHD among identical twins (e.g., Rhee, Waldman, Hay, & Levy, 1999; Price et al., 2005). Investigation into the biological mechanisms that could be implicated in the development of ADHD continues. Some neurological factors that have been implicated include structural and functional differences in several brain areas as well as decreased dopamine in the brain. However, these results are not conclusive. Review of the psychophysiological and cognitive literature has evidenced that children with ADHD have greater variability in central and autonomic arousal patterns (Barkley, 2006). Despite significant

research into the biological influences on the development of ADHD, additional research is needed to pinpoint a definitive biological marker that contributes to the development of ADHD. Further, there are individuals who meet criteria for diagnosis and show some of these markers but not others (Barkley, 2006).

Environmental variables have also been studied in association with the development of the disruptive behaviors associated with ADHD. According to Barkley (2006), there is no social or environmental theory that can account for the development of ADHD in all children. However, Maniadaki, Sonuga-Barke, and Kakouros (2005) found that three parenting processes were related to the development of these behaviors: cyclical patterns of negative reinforcement between a parent and child, harsh parenting practices on the part of the parent and lack of proactive approaches to parenting on the part of the parent. In addition, Nigg (2006) found that both lower emotional support and lower intellectual stimulation by parents were related to the development of ADHD symptoms in children. However, these studies are correlational in nature; therefore, it cannot be inferred whether the parenting behavior affects the behaviors of the children or vice versa.

However, Barkley (2006) takes exception to these studies. He argues that although psychosocial variables are not likely responsible for the development of this disorder, these psychosocial variables are more likely to influence the severity of the ADHD symptoms, how continuous the ADHD symptoms are over the developmental course, the types of secondary symptoms that develop, and the outcome of ADHD in varying degrees.

Overview of Conduct Disorder and Oppositional Defiant Disorder

Much of the research regarding conduct disorder (CD) and oppositional defiant disorder (ODD) addresses both disorders under the headings of conduct problems, DBDs, or aggressive

behavior (Greene et al., 2002). Because of this trend, these two disorders will be discussed together. CD is characterized by a pervasive pattern of violating the rights of others or societal norms. Characteristics include aggression toward people or animals, vandalism or property damage, theft, or repeated and serious rule-breaking behavior (APA, 2000). There are two subtypes identified in the DSM-IV-TR (APA, 2000), including childhood onset, which appears before age 10, and adolescent onset, which appears after age 10. The main symptoms usually begin during middle childhood or middle adolescence, but onset after age 16 is rare (APA, 2000). ODD is characterized by repeated defiance and disobedience toward authority figures. The onset of ODD usually occurs before age 8 and not after early adolescence (APA, 2000).

Etiology of ODD and CD. ODD is considered to be a risk factor for the development of CD, but most children diagnosed as ODD will not go on to develop CD (Burke, Loeber, Lahey & Rathouz, 2005). These two disorders share many common risk factors. Children who are diagnosed with ODD (with or without CD) are at increased likelihood for high rates of comorbid disorders, high levels of social impairment, and increased family dysfunction, including poor cohesion and high levels of family conflict (Greene et al., 2002). Children diagnosed with CD often show impairments in academic achievement, social relationships, and conflict with authority figures (Frick, 2001).

Relatives of children diagnosed with CD had an increased rate of CD or antisocial personality disorder (Petty et al., 2009). Relatives of children with ODD are also more likely to be diagnosed with ODD. There are additional risk factors that may contribute to the development of CD or ODD. Dysfunctions in the hypothalamic-pituitary-adrenal (HPA) axis and in serotonin activity are implicated in the development of behavior problems, but exactly how these systems affect such development is not clear (van Goozen & Fairchild, 2006).

Environmental factors implicated in the development of ODD and CD include exposure to prenatal toxins, lack of good child care for young children, psychopathology in the parents, high levels of family conflict, and inadequate supervision by parents (Frick, 2004). Risk factors for developing CD also include rejection by peers, spending time with other delinquent youths, poor living conditions, and being exposed to violence at a young age.

Treatments

Treatments for the DBDs include psychotropic medications, as well as cognitive and behavioral interventions, and may involve the child, the parent, or both. A brief review of the most common treatments for DBDs will follow.

Medications. Stimulant medications are the first line treatment for ADHD (Robison, Sclar, Skaer, & Galin, 2004), and are being utilized off-label for ODD and CD (Turgay, 2009). Stimulants work on the dopaminergic systems, specifically in the basal ganglia, to reduce locomotor activity and increase attentional focus (Arnsten, 2006; Breggin, 1999). Stimulant medication is effective at reducing off-task behavior (Ialongo, Lopez, Horn, Pascoe, & Greenberg, 1994), improving ability to focus attention and executive attention (Arnsten, 2006), and improving academic achievement and accuracy on class assignments (Douglas, Barr, O'Neil, & Britton, 1986). Additionally, stimulant medication improved the accuracy and slowed the reaction time of children on a continuous performance task (Epstein et al., 2006). Approximately 70% of children who are treated with stimulants respond with short-term improvements in ADHD symptoms and academic achievement (Johnson & Safranek, 2005). In one of the largest randomized clinical trials for ADHD, the medication management group and the combined medication and behavioral treatment group showed larger treatment effects than both the behavioral treatment only group and community comparison group, of which approximately 70%

were taking medication (MTA Cooperative Group, 1999), indicating the effectiveness of medication treatments, particularly if administration of the dosage is closely monitored.

In a review of psychopharmacological treatments for ODD, Turgay (2009) found support for using psychostimulants in children with ODD and CD, and outlined an algorithm for treating ODD: (a) complete a comprehensive evaluation to determine the presence of any comorbid disorders, (b) attempt psychosocial treatments, (c) if no improvements are seen in the first 2-3 months, try a treatment of psychostimulants or atomoxetine. Alternatively, Prince, Russell, and Bostic (2008) recommend utilizing pharmacotherapy as the first line of treatment for ADHD comorbid with another DBD, along with the addition of behavioral treatments. Other medications that have found to be effective in treating DBDs include atomoxetine, α 2-agonists (clonidine and guanfacine), mood stabilizers (lithium), and antipsychotics (risperdone) (Turgay, 2009; Prince et al., 2008).

Medication can have some unwanted side effects. The MTA Cooperative Group (2004a) found that those taking medication over 24 months evidenced significant growth suppression in height and weight. Stimulants also increase heart rate and blood pressure, which could result in cardiovascular problems (Nissen, 2006). Because of this risk, the FDA has recommended a black-box warning discussing the risks on the medication bottles. Research about side-effects is growing, but there is still little information currently available about the effects of taking these medications for an extended period of time. An additional disadvantage of taking stimulant medication as the only treatment for ADHD is that these medications have to be taken continuously to have the beneficial effects. If one is not taking the medication, the benefits stop (MTA Cooperative Group, 2004a).

Behavioral treatments. Another common type of treatment available for DBDs is behavioral treatment. Behavioral treatments can vary, but often involve parent training in behavioral techniques such as time-out and reinforcement (Frick, 2001). Behavioral treatments have been found to decrease disruptive behaviors at home by as much as 24-60% (Hautmann et al., 2009; Pisterman, 1992). In a review of effective treatments for CD, Frick (2001) found four effective treatment approaches that include contingency management programs, parent management training, cognitive-behavioral skills training, and the use of stimulant medications. A behavioral treatment program that utilized parent training along with social skills training, coping strategies, and problem-solving skills also showed a decrease in disruptive behaviors (Stadler et al., 2008, although the child's heart rate was related to treatment outcomes with higher heart rates being related to larger declines in aggressive and oppositional behaviors.

One potential benefit to behavioral treatments may be more long-term benefits. In the MTA Cooperative Group (2004a) study, at the 24 month follow-up, the group receiving behavioral treatment evidenced less deterioration of treatment gains than did the medication or combined treatment groups. Further, these treatments may teach the child how to behave, and therefore, reduce dependence on continued treatment. In the MTA study, no differences were found for participants receiving behavior therapy than for participants receiving community comparison treatment at 10 month post-treatment follow-up, even though more individuals in the community comparison group were receiving medication at the time (MTA, 2004b).

Treatment Utilization. Though behavioral treatments are recommended and available, they are underutilized despite their effectiveness. When parents received recommendations to pursue medication and psychological treatment for their child, 72% pursued the recommendation of a medication evaluation and 54% pursued the recommendation of psychological treatment

(Bennett, Power, Rostain, & Carr, 1996). In a study of 8,000 children diagnosed with ADHD, only 26.2% of children diagnosed with ADHD received some kind of psychotherapy intervention, whereas 85.7 % received stimulant medication as an intervention (Olfson, Gameroff, Marcus, & Jensen, 2003). Some barriers to these types of treatments have been studied including the demands of treatment, perceived relevance of treatment (Kazdin & Wassell, 1999), stressors, problematic relationship with therapist (Kazdin, Holland & Crowley, 1997), access problems, financial problems, competing time or scheduling demands, and negative attitudes and beliefs (MacNaughton & Rodrigue, 2001). However, these studies have mainly focused on beliefs about external variables. There is limited research about how parental beliefs about the self in the role as parent affect specific treatment variables such as involvement or persistence and positive/negative affect surrounding the treatment process.

Parental Cognitive Factors

Self-efficacy. One such belief about the self that is important to examine is self-efficacy. Self-efficacy beliefs are beliefs that one is capable of producing certain outcomes (Bandura, 1997). These beliefs about capability may influence the choices one makes in life, one's thought patterns, and possibly one's behaviors in given situations. It is generally understood that parents with higher levels of parental self-efficacy are more effective and competent in the parenting role (Jones, 2006). Self-efficacy is considered to be one part of parental competence (Mondell & Tyler, 1981). However, this variable is often studied as a separate, distinct concept without examining parental competence.

It is important to examine how self-efficacy beliefs relate to initiation of treatment for DBDs. Parents who feel that their parenting skills are ineffective might be less likely to engage in certain treatments (Morrisey-Kane & Prinz, 1999), particularly if these treatments require a

high level of involvement on their part. If a parent does not feel capable of implementing or maintaining a particular treatment, he or she is unlikely to participate in the treatment and may talk about the treatment in a negative manner because of his or her lack of confidence in the ability to participate in helping the child make changes. The research about the influence of parental self-efficacy and the level of involvement of the parent in the child's treatment indicates that parental self-efficacy may be important because parents are typically the decision makers when it comes to treatment for disorders (Pekarik & Stephenson, 1988).

Parental self-efficacy beliefs are related to perceived child behavior problems in both clinical and normative samples (Johnston & Mash, 1989; Jones & Prinz, 2005; Mash & Johnston, 1983). Lower parental self-efficacy is linked to increased perception of child behavior problems (Jones, 2006). Given that child behavior is related to parental self-efficacy, that child behaviors are related to parenting behaviors (Burke, Pardini & Loeber, 2008), and the presumption that parental self-efficacy influences the amount of effort parents expend on child rearing (Mash & Johnston, 1990), it stands to reason that parental self-efficacy would also influence the amount of involvement that the parent would have in their child's treatment for DBDs. It is also likely that parental self-efficacy would be related to whether the parent discusses the steps they are taking to address their child's behavior in a positive or negative way. If lower parental self-efficacy is linked to increased perceived behavior problems in the child, then it seems likely that these parents would speak more negatively about the steps they are taking to address the problems, either out of frustration or perceived ineffectiveness of the treatments.

Locus of Control. Locus of Control (LOC) may also be important to study in relation to choice of treatment for disruptive behavior disorders. LOC is an individual's perceived sense of control over his or her own life. Rotter (1966) first described LOC as a person's expectancies for

reinforcement of their behavior. Individuals can be classified as internal or external in their LOC. Individuals with an internal LOC believe that they have control over their lives and circumstances. They believe that their actions have an impact on the outcome of a situation. According to Rotter, these individuals believe that their behaviors are responsible for the environmental contingencies. Individuals with an external LOC believe that some outside (or external) force is in control of their circumstances. They believe that the outcome of a given situation will remain the same whether they take action or not. According to Rotter, these individuals do not believe that their actions are responsible for environmental contingencies.

LOC differs from self-efficacy in two ways: (a) self-efficacy is more specific to particular tasks, while LOC is a more general, global characteristic (Waller, 2004); and (b) self-efficacy examines beliefs about the self, whereas LOC examines beliefs about environmental reinforcement (Haidt & Rodin, 1999). That self-efficacy and LOC are two distinct concepts is supported by the results from a study completed by Lovejoy, Verda, and Hays (1997), which found no relationship between the scales utilized in this study as measures of parental locus of control and parental self-efficacy.

LOC beliefs may also play an important role in parental treatment involvement for DBDs. For example, a person with an internal LOC may view their actions as important and may be more likely to be proactive in changing their life circumstances and believe that their problems are within their control. These parents feel able to handle the behavior of any child (Morrissey-Kane & Prinz, 1999), and therefore, they may be more likely to engage in treatments that require more involvement on their part, such as making more frequent visits to the treatment center, implementing behavior plans, or changing the home environment in order to help the child be more successful in controlling his or her behavioral symptoms. Psychological treatments

may be a more attractive treatment choice for individuals with an internal LOC, even if only as an addition to pharmacological treatment, because they believe their attempts at change will have an impact on the outcome, or the disruptive behavior symptoms. Further, individuals with an internal LOC may also speak more positively about the steps they are taking to address their child's behavior problem because they believe that their child's symptoms are improving as a result of their efforts and involvement in the change of their child's behavior.

Individuals with an external LOC may believe that their actions have no impact on their circumstances and so may make little effort to take action. These individuals may feel resigned to their fate and accept hardships with a sense of helplessness. Parents with an external LOC may feel insecure about their parenting skills, and when dealing with a child's difficult behavior may easily feel defeated and feel unable to participate in their child's treatment. Therefore, these parents may see medication as the best treatment choice as it requires very little involvement on their part because if they cannot effectively take part in addressing their child's problems, they are likely to have limited participation in the treatment (Morrissey-Kane & Prinz, 1999).

Pursuing psychotropic medications as the primary or sole treatment may require the parent to do little other than to give the child a pill every day and attend doctor's appointments every few months. The medication, not the child with the DBD or the parent, is viewed as altering the outcome or symptoms. Parents with an external LOC may also be more likely to refer to the steps they are taking to address their child's behavior in a negative light because they believe they have no control over the effectiveness of the treatment and may become easily frustrated if little change occurs.

Parental LOC may also influence treatment choices, but there is little research available for the influence of treatment for DBD. Campis, Lyman, and Prentice-Dunn (1986) found that

parents seeking treatment for parenting issues were more likely to have an external LOC and between 28 and 60 % of parents enrolling their child in treatment never completed treatment (Morrissey-Kane & Prinz, 1999). It seems likely that parents who are more externally controlled may be likely to drop out of treatments that require high levels of involvement.

The hypotheses to be investigated in this study are a) that parents with external locus of control are likely to be less involved in their child's treatment, whereas parents with internal locus of control are more involved with their child's treatment, and b) that parents with low parental self-efficacy are likely to be less involved in their child's treatment, whereas parents with high parental self-efficacy are more involved with their child's treatment. It is also hypothesized that a) parents with external locus of control are more likely to talk about the steps they are taking in a negative way, whereas parents with internal locus of control are more likely to talk about the steps they are taking in a positive way, and b) parents with low parental self-efficacy are more likely to talk about the steps they are taking in a negative way, whereas parents with high parental self-efficacy are more likely to talk about the steps they are taking in a positive way.

Method

Participant Selection

Participants were 30 parents of children and adolescents seeking treatment at a community mental health facility. Parents who were enrolling their child at the facility for the first time or enrolling their child in a new treatment program were approached by staff about participating the study. If parents agreed to participate, a staff member provided them with the packet of questionnaires that included all the measures discussed below and a pamphlet containing information such as websites and books that may be helpful to parents in dealing with

a child's problematic behaviors. These resources varied in terms of the amount of active involvement that was required on the part of the parent in order to utilize them. The questionnaires were completed at the facility and returned to the staff.

Thirty-three parents completed the questionnaires and three were excluded because their child did not meet criteria for a DBD based on the standards used in this study. Presence of a DBD was measured by clinically significant elevations on either of the behavior rating scales on an externalizing symptom scale, and only parents whose child had clinically significant elevations on either of the behavior rating scales were included as participants in this study.

Of the parents participating, 27 were female and three were male ($n = 30$), and the children ranged in age from 4-15. Their children were 15 males and 14 females. One parent did not indicate their child's gender. Seventy percent of the families had an income of less than \$25,000 annually, but 27 of the families had a payment source that covered mental health services, two families did not, and one family failed to complete that information. Thirteen of the parents reported that their child was currently receiving some sort of mental health treatment prior to enrolling in the study.

Procedures

Initial examination of behavior rating scales. All of the returned Behavior Assessment System for Children-Second Edition, Parent Rating Scale (BASC-2 PRS) and Conners' Parent Rating Scale Revised: Short Form (CPRS-R: S) questionnaires were examined to see if there were clinical elevations on any scales. Parents received written feedback about any elevations that were present on either scale and a copy was placed in the child's chart in order to facilitate provision of treatment.

Given that the BASC-2 has items that could suggest the child is considering harming himself or others, these items were handled more carefully. If a parent indicated that a child had been engaging in these behaviors, the parent was contacted by phone as soon as possible to allow for recommendation of treatment options. If the parent could not be reached, staff working with the child were notified.

Determining involvement in treatments. Parents of children who met criteria for inclusion were contacted one to two months after they completed the questionnaire packet via telephone and asked what steps they were taking to address their child's behavior problems, including the treatments in which they chose to enroll. A general script for inquiring about any actions the parent was taking was followed (see Appendix A). These telephone calls were recorded and transcribed to ensure that the answers obtained accurately reflected the response given by the parent and included all aspects of a treatment choice.

Following transcription, each answer the parent provided regarding the steps they were taking to address their child's behavior was placed on a small slip of paper. In an effort to control for length of response, each slip contained no more than three consecutive sentences. Responses that were greater in length were broken into three sentence segments, provided the segments were meaningful, and were rated separately. Responses that were represented by multiple slips were averaged and therefore represented by a single score. Two advanced psychology graduate students used the responses given by parents about the methods they were using to dealing with their child's behavior and rated each response for two separate dimensions. The instructions for how to rate the variables related to treatment were provided for each rater (see Appendix B).

The first dimension they were asked to rate was level of involvement with one end representing low involvement and the opposite end representing high involvement. The raters

were instructed to place statements that represented low levels of involvement near zero and statements that represented high levels of involvement near 100 along the meterstick. Level of involvement was examined to determine how parental LOC and parental self-efficacy are related to the level of involvement a parent reports in responding to their child's behavioral difficulties. Level of involvement refers to an individual's commitment of time to being involved with a certain activity or aspect of their lives, which, in this case, is addressing their child's behavior problem. An individual can be classified as high or low in their involvement in their child's treatment. The raters were given examples of sentences that reflected both high and low involvement.

The second dimension they were asked to rate was the positivity with which they describe the actions they are taking with one end representing positivity and the opposite end representing negativity. The raters were instructed to place statements that represented negativity near zero and statements that represented positivity near 100 along the meterstick. Positivity and negativity refer to the attitudes with which a person discusses a topic of interest. In this case, the topic of interest is the way in which the parent explains the steps they are taking to address their child's behavior problems. The raters were given examples of sentences that reflected both positivity and negativity. The placement of each numbered slip on the meterstick was recorded for each expert rater.

Interrater reliability was established by calculating intraclass correlations for each dimension because this is a common way to measure the agreement of two raters when rating the same thing. Correlation coefficients were 0.89 for level of involvement and 0.82 for the positivity-negativity dimension. The coders' ratings for each treatment choice were averaged and that score was used to represent the ratings of level of involvement and positivity-negativity for

that parent's description of the actions they are taking to address their child's behavior problems.

Materials

Demographic questionnaire. The demographic questionnaire (see Appendix C) was developed by this author for purposes of this study only. It gathered information regarding age and gender of the child, parents' level of education, parents' current occupation, and family income level, any past evaluation and/or treatment for disruptive behavior disorders and other socioemotional issues. The demographic questionnaire also had items intended to examine the parent's belief in the medical model of ADHD. Finally, the role of the child's opinion in the choice of treatment was also examined.

Conners' Parent Rating Scale Revised: Short Form (CPRS-R:S). This scale was used to examine the level of oppositional behavior and ADHD symptoms. Any T-score of 61 or above on the Conners' Parent Rating Scale Revised: Short Form was considered clinically elevated. The Conners' Rating Scales-Revised has internal consistency coefficients that range from .75 to .90 (Conners, 2000). This scale has been commonly utilized to assist in the diagnosis of ADHD (O'Mahony, Lai, & Mulligan, 2009; Perera, Fernando, Yasawardena, & Karunaratne, 2009). Descriptors of the Conners' and other measures are included in Table A1.

Behavior Assessment System for Children-Second Edition Parent Rating Scale (BASC-2 PRS). This scale was used as an additional measure of disruptive behaviors. The clinical scales have internal consistency coefficients that range from .77 to .88. The composite scales, including the externalizing and internalizing composites, have internal consistency coefficients that range from .90 to .95 (Reynolds & Kamphaus, 2004). This scale has been commonly utilized as an assessment of children's levels of externalizing and internalizing behaviors (Jarratt, Riccio, Siekierski, 2005; Vaughn, Riccio, Hynd, & Hall, 1997).

Self-efficacy. The Parental Sense of Competence Scale (Johnston & Mash, 1989) has an efficacy subscale that was used as the measure of parental self-efficacy (see Appendix E). This subscale consists of 7 items rated on a 6-point Likert-type scale ranging from *strongly disagree* (1) to *strongly agree* (6). All items of this subscale were reverse scored. Higher scores indicated higher levels of parental self-efficacy. This subscale has an internal consistency alpha coefficient of .76 (Johnston & Mash, 1989). The PSOC scale has been used previously to examine the relationships between parental self-efficacy and satisfaction and children's behavior (Johnston & Mash, 1989) as well as child-rearing practices (Ohan et al., 2000).

Locus of control. The Parental Locus of Control (PLOC) Scale (Campis, Lyman, & Prentice-Dunn, 1986) was used as a measure of parental LOC (see Appendix F). The PLOC scale consists of 47 items rated on a 5-point Likert scale ranging from *strongly disagree* (1) to *strongly agree* (5). Items 3, 7, 9-20, 22, 25, 26, 27, 38, and 47 were reverse scored. Ratings were added to determine total score. The PLOC can be broken down into five subscales or factors: (1) parenting efficacy, (2) parental responsibility, (3) child control of parents' life, (4) parental belief in fate/chance, and (5) parental control of child's behavior. During validation, Campis, Lyman and Prentice-Dunn recommended eliminating the scale of parental belief in fate/chance because of its inability to discriminate between internal and external LOC, so it was not included in this study. Only the total score, comprised of the four scales, was examined in this study. Higher scores indicate a more external LOC, whereas lower scores indicate a more internal LOC. This scale has an internal consistency alpha coefficient of .92 (Campis et al., 1986). This scale has been used to examine the relationship between parental LOC and the child's level of difficult behavior as well as the parents LOC after participating in a parent training program (Roberts, Joe, & Rowe-Hallbert, 1992).

Results

Parental LOC was measured using the PLOC Total Score ($M = 100.2$, $SD = 8.7$). Parental self-efficacy was measured by the total score on the Parental Sense of Competence Scale ($M = 67.6$, $SD = 12.1$). Standard scores (PLOC $M = -.41$, $SD = .52$; PSOC $M = .34$, $SD = 1.25$) were also created for the parents scores on these measures in order to gain an idea of the normative range of the scores. A test of using the standard scores in place of the raw scores was done and the same results were found. The relationship between the PLOC and PSOC scale score were examined, finding no significant relationship between these two variables, $r(30) = -.20$, $p = .29$, indicating that LOC and self-efficacy are separate constructs.

The main hypotheses of this study that a) parents with external locus of control would be less involved in their child's treatment, whereas parents with internal locus of control would be more involved with their child's treatment, and b) that parents with low parental self-efficacy would be less involved in their child's treatment, whereas parents with high parental self-efficacy would be more involved with their child's treatment, were tested by a correlational analysis of the relationships of both parental LOC and parental self-efficacy with the level of involvement. Parental PLOC was not related to the level of involvement of the parents in their child's treatment, $r(30) = .05$, $p = .79$, nor was parental self-efficacy, $r(30) = .00$, $p = .99$.

The second hypothesis, that a) parents with external locus of control would be more likely to talk about the steps they are taking in a negative way, whereas parents with internal locus of control would be more likely to talk about the steps they are taking in a positive way and b) parents with low parental self-efficacy would be more likely to talk about the steps they are taking in a negative way, whereas parents with high parental self-efficacy would be more likely to talk about the steps they are taking in a positive way, was examined through a correlational

analysis. The relationship between parental LOC and negativity-positivity was examined using a Pearson product moment correlation. External LOC was inversely related to the negativity-positivity dimension suggesting that parents with an external LOC talk more negatively about the steps they are taking to address their child's behavior than those with more internal LOC, $r(30) = -.57, p = .01$. Parental self-efficacy was not significantly related to positivity or negativity, $r(30) = -.05, p = .81$.

Post-hoc analyses were performed examining the relationship between family income level and PLOC score in order to determine if parents with a higher income are more likely to have an internal LOC, using a oneway ANOVA, and found no significant relationship between these two variables, $F(2,24) = 0.44, p = .65$. The parental measures were also examined in relation to the level of externalizing behaviors they reported to determine whether parents with a more internal LOC and high self-efficacy reported less severe behaviors in their children. There was no evidence of any significant relationship between either of the parental measures and severity of symptomology, which is represented by the score on the BASC-2 Externalizing Behavior Scale (PLOC $r(29) = .21, p = .27$; PSOC $r(29) = .17, p = .38$). There was also no evidence of any significant relationship between either of the parental measures and severity of symptomology, when symptomology is represented by the Conner's ADHD Index (PLOC $r(29) = -.04, p = .85$; PSOC $r(29) = -.10, p = .61$). Additionally, parental self-efficacy and PSOC were examined in relation to the type of parent participating, with parents grouped into mother, father, and female guardian (no male guardians participated in this study). A univariate analysis of variance was completed to determine any relationship, but no significant association was found between the type of parent participating in the study and PLOC, $F(2,27) = 322.48, p = .12$ or PSOC, $F(2, 27) = 124.1, p = .67$.

Another post-hoc analysis examined whether parents of males were more likely to discuss the steps they are taking to address their child's behavior in negative terms. A univariate analysis of variance examined the relationship between child gender and the positivity-negativity dimension. No significant relationship between these variables was found, $F(1, 27) = 48.24, p = .65$.

In an attempt to replicate or strengthen the finding that PLOC was related to the level of positivity-negativity with which a parent discusses the steps they are taking to address their child's behavior problems an additional post-hoc analysis was performed. The statements made by the parent about the actions they are taking to address their child's behaviors were entered into a program that performed a linguistic analysis (Pennebaker, Booth, & Francis, 2001). This provided a word count of positive and negative emotionally laden terms utilized by each parent. These scores were then compared with the positivity-negativity dimension provided by the independent ratings scored by the graduate students using Pearson-PM correlations. The positive emotion score from the linguistic analysis was not significantly related to the level of positivity-negativity as scored by the raters, $r(30) = .18 p = .34$, nor was the negative emotion score, $r(30) = -.01 p = .97$. The positive emotion and negative emotion scores from the linguistic analysis were also compared to the PLOC and PSOC scores using Pearson-PM correlations. No relationships were found between the PLOC score and the positive emotion score, $r(30) = -.05 p = .78$ or the PLOC and the negative emotion score, $r(30) = -.07 p = .71$. Similarly, no significant relationships were found between the PSOC and the positive emotion score, $r(30) = -.34 p = .07$ or the PSOC and the negative emotion score, $r(30) = .03 p = .87$.

Discussion

As hypothesized in this study, parental LOC is related to the attitude with which parents discuss the steps they are taking to address their child's behavior problems. Parents with an external LOC discuss the steps they are taking to address their child's behavioral issues in a negative light, whereas parents with an internal LOC discuss their actions to addressing their child's behavior problems in a more positive light. The parents may speak more positively about the steps they are taking to address their child's behavior problem because they believe that their child's symptoms are improving as a result of their efforts. Individuals with an internal LOC have been found to be more persistent in tasks (Gordon, Jones, & Short, 1977), and it is conceivable that parents with an internal LOC are more persistent in following treatment recommendations, though this relationship has not yet been established. Parents with an internal LOC may be able to use their persistence to follow through with more demanding and time-intensive treatments. Because of their persistence, their child is likely to get the full benefit of the treatment and see improvement in their behaviors (Kazdin & Wassell, 1999). Conversely, parents with an external LOC may feel unable to participate in their child's treatment (Morrissey-Kane & Prinz, 1999), and engage in treatment inconsistently or only for short periods of time. With inconsistent adherence to treatment, poor outcomes are likely (Kazdin & Wassell, 1999), as is an increase in the negativity with which the parents discuss the treatments or actions they are taking to address their child's problems. Parents with an external LOC may refer to the steps they are taking to address their child's behavior in a negative light because they believe they have no control over the effectiveness of the treatment and may become easily frustrated if little change occurs.

These findings may have implications for how we introduce recommended treatments to parents. Assessment of parental LOC at the beginning of treatment would be helpful in that knowledge of the parents LOC may help clinicians address important considerations with these parents. Parents with a more external LOC may need specific information about the length of time that a treatment can be expected to take and when changes in their child's behavior will start to become evident. It may be beneficial to directly challenge the parent's beliefs about their abilities to engage in treatments that will place demands on their skills. Parent-training programs may be beneficial and help to improve the parent's skills in implementing change. Parent training has been shown to improve parenting skills, changes in the child's behavior (Pisterman, 1992; Stadler et al., 2008), and LOC (Roberts et al., 1992). It is possible that seeing the changes in the child's behavior improves the parent's assessment of their own skills. Similarly, it is possible that as the parent learns new skills, and their parenting skills improve, positive changes in the child's behavior occur. Regardless of which variable is impacted first, positive changes in the child's behavior will reinforce more internal LOC beliefs.

The finding that parental LOC is related to the attitude with which a parent discusses the steps they are taking to address their child's behavior problems may also be related to the concept of treatment acceptability (Krain et al., 2005). If a parent finds a treatment to be acceptable, they may talk about it in a more positive manner (Pekarik & Stephenson, 1988). However, ratings of treatment acceptability by parents have not been found to correspond with their actual engagement in these treatments or their beliefs related to the effectiveness of the treatments (Krain et al., 2005; Johnston, Hommersen, & Seipp, 2008). Parents engage in treatments even if they find them to be less acceptable (Krain et al., 2005) and rate less acceptable treatments as highly effective (Johnston, Hommersen, & Seipp, 2008). It is possible

that LOC mediates the relationships between parent's perceptions of treatment acceptability, treatment engagement, and treatment effectiveness. Even if parents find a treatment to be less desirable, those with internal LOC may feel confident in their abilities and pursue, implement, and engage in these treatments, even if the treatments are more perceived as more involved or more difficult. In other words, the internal LOC may act as a catalyst to encourage parents to pursue a course of treatment that appears undesirable because of time and effort because they attribute initial changes in their child's behavior to their efforts. Such a complex relationship clearly warrants additional investigation.

The three other original hypotheses of this study were unconfirmed. Parental self-efficacy was not found to be significantly related to the attitude with which a parent discusses the steps they are taking to address their child's behavior problems. Neither parental self-efficacy nor parental LOC were found to be related to the level of involvement of the parents in their child's treatment as measured in this study.

Additionally, parental self-efficacy and parental LOC were not correlated with one another in this study. Although these characteristics are often considered related concepts, this study supports the argument that these are distinct concepts. Waller (2004) argues that LOC is a more general, stable characteristic; self-efficacy is more task-specific (Bandura, 1977). Self-efficacy examines beliefs about the self, whereas LOC examines beliefs about environmental reinforcement (Haidt & Rodin, 1999). Therefore, parents may believe that their actions have an impact on the outcome of a situation, in this case their child's behavior, but continue to feel that their parenting skills are lacking when compared with other parents.

Parental LOC and parental self-efficacy were also examined in relation to specific demographic variables. Income level of the family was not significantly related to parental LOC

or parental self-efficacy score, nor was the type of parent completing the survey or the level of externalizing behaviors. There was no significant relationship found between child gender and the level of positivity or negativity with which parents discussed the steps they were taking to address their children's behavior problems.

Limitations

As with any empirical investigation, some limitations must be considered. The sample size of this study was small, which could have limited the number of significant findings in this study due to inadequate power. In addition, the average income level of the sample was quite low with little variability. Therefore, it is unclear whether these findings would generalize to a larger more varied sample.

The one significant finding, that PLOC was inversely related to the level of positivity-negativity with which a parent discusses the steps they are taking to address their child's behavior problems, could have been due to a Type I error. Further support to this possibility lies in the inconsistent results obtained through the linguistic analysis. Specifically, the number of positive and negative words used in the transcripts was unrelated to either parental LOC or sense of competence. Given the inability to replicate the finding using the linguistic analysis, it is possible that the judges responded to something different than simply the use of positive and negative words in the transcripts. In order to gain further insight into what judges may have responded to, additional investigation is required.

Parental self-efficacy as measured in this study was not found to correlate with the level of involvement of the parents in their child's treatment, income level, parent type, or the level of externalizing behaviors on part of the child. Parental self-efficacy was also not found to be related to the attitude with which the parents discussed the steps they were taking to address the

child's behavior problems as measured by the independent raters. However, when comparing parental self-efficacy to the negative words as measured by the linguistic analysis, the relationship neared significance. It is possible that this was due to insufficient power because of the small sample size. The linguistic analysis was done as a post-hoc test and was not planned for in determining the necessary sample size for this study.

Another possible reason for finding no relationships between parental self-efficacy and the other variables could be due to the type of measure used to represent parental self-efficacy. Self-efficacy can be measured at the general or global level, the domain-level (i.e., parenting self-efficacy), or the task-specific level (Coleman & Karraker, 1997). Self-efficacy, as conceptualized by Bandura (1989), was intended to be examined as a task-specific variable. The parenting self-efficacy subscale of the Parenting Sense of Competence Scale is considered to be a domain-level measure of parental self-efficacy (Coleman & Karraker, 1997). It is possible that measuring self-efficacy related to addressing behavior problems more specifically would have yielded different results. It is possible that parental self-efficacy deals more with the emotional component of parenting while efficacy related to managing behavior problems is more skill-based. This type of self-efficacy may be important to examine, given that treatment acceptability was related positively to mental health services self-efficacy (Reich, Bickman, & Heflinger, 2004). Mental health services self-efficacy is a distinct type of self-efficacy focusing on the skills necessary to utilize mental health treatments (Reich et al., 2004). This variable may be more appropriate for studying treatment choice and engagement.

The level of involvement parents report in their children's treatment was based on the parent's self-report. It is possible that the way level of involvement was operationalized in this study did not effectively capture the level of involvement a parent has in their child's treatment.

A parent may overlook certain aspects of their involvement, such as regularly attending appointments and administering medication daily, unless questioned about it specifically. A more detailed questionnaire that asks about different behaviors that a parent may engage in would likely be helpful to gather detailed information about their level of involvement.

A possible bias in this study was that parents were enrolling their child in treatment at the time of completion of the surveys. Therefore parents who were doing nothing to address their child's behavior were not included in the study. In addition, most respondents were female and it has been established that there are gender differences in parental LOC scores reported (Hoza et al., 2000).

Future Directions

Parental LOC and parental self-efficacy may also be impacting parenting in other domains. Parents with external LOC have been found to use more authoritarian parenting practices (Janssens, 1994), and parents with low self-efficacy have been found to use more coercive parenting practices (Sanders & Woolley, 2005). Parental depression was also found to be related to both the parental variables and the parenting styles (Janssens, 1994; Sanders & Woolley, 2005). Future research examining these variables in relation to treatment involvement would be beneficial. It is possible that a combination of low self-efficacy, external LOC and parental depression impact a parent's involvement in treatment or the attitude with which they discuss their treatment. People experiencing depression tend to focus on the negative events (Janssens, 1994), so it is important to consider a parent's level of depression when examining the attitude with which they discuss their engagement in treatment.

It will also be important to examine parental engagement and involvement in treatment for their child's behavior problems related to mental health services self-efficacy. Perhaps this

may better account for involvement in treatment, whereas the parental LOC is more related to how they feel about, or their attitude toward, the steps they are taking to address their child's behaviors.

Future research should examine parental involvement in their child's treatment using a more standardized measure of a parent's involvement in their child's treatment. It would be beneficial to know each type of treatment the parent has tried with that child, as well as other variables, including their typical rate of keeping appointments, consistency in administering medication, and reliability in implementing behavior plans. Parents may overlook many of the mundane, repetitive tasks associated with treatment involvement such as scheduling appointments, ensuring that their child takes their medication daily, and requesting refills if they are not specifically asked to discuss them. A more representative measure of all of the different types of treatment involvement may improve the accuracy of this variable.

A longitudinal study examining parental LOC, parental self-efficacy, and the child's level of externalizing behavior as the child progresses through treatments would allow us to see more about the process and the impact that improvements in a child's behavior have on the parental characteristics over time. Given that parents' LOC have become more internal after completing parent training programs (Roberts et al., 1992), it could then be determined whether it is the parental variables that impact the child's behavior or vice versa.

Future research attempts should be made to balance the number of male and female participants. Hoza et al. (2000) found that mothers have a more external LOC and lower parenting-self efficacy than fathers, and that the self-efficacy of fathers was related to the child's treatment outcome. Therefore, it seems important to examine the cognitive characteristics of both the mothers and fathers to learn more about these gender differences.

Appendix A

Phone Call Script for Determining Treatment Choice

Hi. This is Danielle Hemmings. You recently completed some questionnaires as part of a study about factors that influence the things parents use to deal with their child's problematic behaviors. You should have received a brochure with different resources on it when you completed the questionnaires.

Did you receive the brochure? _____

Not all parents find the information we provided helpful. On a scale from 1-10 with 1 being not at all helpful and 10 being extremely helpful, how helpful was the information?

The purpose of this phone call is to find out if you have decided to do something to address the issues. What types of things have you done? _____

(If the parent indicates that he/she has not pursued anything on the list, he/she will be asked if there are any other types of information that we could send that would be helpful.) (If they indicate that they did a few different things the following script will be followed.) Are you using different strategies at home and school to manage your child's behavior? _____ If so, tell me about what you are doing differently. _____

There were also books listed as references. Have you read any of these books or books suggested by others? _____

How many books did you consult? _____

Websites were also given as a source of information. Did you browse any of these websites or websites suggested by others? _____

How many websites did you visit? _____

Appendix B

Directions for Rating Treatment Choice

Instructions:

LEVEL OF INVOLVEMENT refers to an individual's commitment of time to being involved with a certain activity or aspect of their lives, in this case, addressing their child's behavior problem. An individual can be classified as HIGH or LOW in their INVOLVEMENT. Examples of sentences related to HIGH Involvement are *"I spend a lot of time researching my child's disorder."* *"I try different things to deal with my child's behavior problems."* Examples of sentences related to LOW Involvement are *"Other people help my child with his problems."* *"I don't have much time to devote to learn about what may help my child."*

You will be rating parents' statements of what they are doing to address their child's behavior related to the level of involvement they seem to have

With this in mind, please:

- Read through each of the following statements about what the parents are doing to address their child's behavioral issues, and decide if they represent high or low involvement.
- Place the high involvement statements on the high end of the scale (toward 100 cm)
- Place the low involvement statements on the low end of the scale (toward 0 cm)
- Place the choices reflecting somewhat low and somewhat high involvement in the middle of the scale (at or near 50 cm). Here, exactly 50 cm means that the choice cannot seem to be classified as either HIGH or LOW (it reflects aspects of both).
- When you have placed these statements, review them a last time to be sure that the most high or low items are placed at the extreme ends of the scale, and that the distance between items reflects the extent to which the different statements say something about high-low involvement.

Mid-range involvement

Statement indicates a level of involvement that is neither high nor completely passive

LOW Involvement

Statement reflects that they depend on others to help with their child's issues

HIGH Involvement

Statement reflects that the person commits a large amount of time and effort into helping with child's issues

POSITIVITY and NEGATIVITY refer to the attitudes with which a person discusses a topic of interest. In this case, the topic of interest is how they explain what they are doing to address their child's behavior problems. Examples of statements that reflect POSITIVITY might include references to improvements or changes for the better and would likely reflect hope for positive change. Examples of statements that reflect NEGATIVITY might focus on only negative behaviors that the child engages in, reflect hopelessness or helplessness, or include statements about improvement being impossible.

You will be rating statements that parents gave about what they are doing to try to address their child's behavioral issues. A statement indicates POSITIVITY if it says something positive about change or hope for change. A statement indicates NEGATIVITY if it says something about change not being possible or if they seem as if nothing is helping. A statement reflects NEUTRALITY if it does not indicate anything about change or attitude toward change.

With this in mind, please:

- Read through each of the following personality feedback statements once, deciding if it reflects POSITIVITY, NEGATIVITY, or NEUTRALITY
- Place the positivity statements on the high end of the scale (toward 100 cm)
- Place the negativity statements on the low end of the scale (toward 0 cm)
- Place the neutral statements in the middle of the scale (at or near 50 cm). Here, exactly 50 cm means that the statement does not seem negative or positive. Items placed near 50 cm mean that the statement is related to positivity or negativity, but only barely.
- When you have placed these statements, review them a last time to be sure that the most positive or negative items are placed at the extreme ends of the scale, and that the distance between items reflects the extent to which the different statements say something about the parent's attitude

NEUTRAL

Statement does not indicate anything about a person's attitudes about change.

NEGATIVITY

Statement says something negative about inability to change or hopelessness related to improving the child's behavior

POSITIVITY

Statement says something positive about change or hope for change

To ensure follow-up, please complete the contact information.

Parent's Name: _____

Address: _____
House/Apt # and Street Name City State Zip

Phone #: _____

Age of child: _____

Age of child (check one)

- Male
- Female

Mother's level of education (check one)

- Some High School
- High school diploma/GED
- Some college/technical school
- 4 year degree
- Post-baccalaureate degree

Father's level of education (check one)

- Some High School
- High school diploma/GED
- Some college/technical school
- 4 year degree
- Post-baccalaureate degree

Mother's occupation _____

Father's occupation _____

Number of persons in the household _____

Household Income (check one)

- less than \$5,000

- \$5,000 – 9,999
- \$10,000 – 14,999
- \$15,000 – 24,999
- \$25,000 – 34,999
- \$35,000 – 49,999
- \$50,000 – 74,999
- \$75,000 – 99,999
- greater than \$100,000

Do you currently have a payment source that covers mental health services?

- Yes
- No

Has the child been referred for an evaluation for behavior and/or learning problems?

- Yes
- No

If yes, who recommended the evaluation?

- Teacher
- Physician
- Family Member
- Other: _____

Was your child given a diagnosis as a result of the evaluation?

- Yes
- No

If yes, please check all of the diagnoses that apply:

- Learning disorder
- Oppositional Defiant Disorder
- Disruptive behavior disorder
- Attention-deficit/ hyperactivity disorder
- Depression
- Anxiety disorder
- Conduct disorder
- Asperger's disorder
- Autism

Is your child currently receiving treatment for the above disorder(s)?

- Yes

No

If yes, what type of treatment? _____

If currently receiving treatment, what was your child's feeling about the treatment?

1	2	3	4	5
Very ineffective	Ineffective	Neither ineffective or effective	Effective	Very effective

If currently receiving treatment, what was your feeling about the treatment?

1	2	3	4	5
Very ineffective	Ineffective	Neither ineffective or effective	Effective	Very effective

How much did your child's opinion about treatment play a role in your decision to employ that particular type of treatment?

1	2	3	4	5
Very weak	Weak	Neutral	Strong	Very strong

For the following problems that children sometimes experience, some people believe that biology plays a strong role. In other words, they believe that some children are born with these issues. Please rate how strongly you believe that children are 'born with' the following issues:

1. Learning disorders

1	2	3	4	5
Very weak	Weak	Neutral	Strong	Very strong

2. Oppositional defiant disorder

1	2	3	4	5
Very weak	Weak	Neutral	Strong	Very strong

3. Disruptive behavior disorder

1	2	3	4	5
Very weak	Weak	Neutral	Strong	Very strong

4. Attention-deficit/hyperactivity disorder

1	2	3	4	5
Very weak	Weak	Neutral	Strong	Very strong

5. Depression

1	2	3	4	5
Very weak	Weak	Neutral	Strong	Very strong

6. Anxiety disorders

1	2	3	4	5
Very weak	Weak	Neutral	Strong	Very strong

7. Conduct disorder

1	2	3	4	5
Very weak	Weak	Neutral	Strong	Very strong

8. Asperger's disorder

1	2	3	4	5
Very weak	Weak	Neutral	Strong	Very strong

9. Autism

1	2	3	4	5
Very weak	Weak	Neutral	Strong	Very strong

For the following problems that children sometimes experience, some people believe that their learning or their environment plays a strong role. In other words, they believe that some children learn these behaviors from their experiences. Please rate how strongly you believe that children are 'learn' the following issues from their environment:

1. Learning disorders

1	2	3	4	5
Very weak	Weak	Neutral	Strong	Very strong

2. Oppositional defiant disorder

1	2	3	4	5
Very weak	Weak	Neutral	Strong	Very strong

3. Disruptive behavior disorder

1	2	3	4	5
Very weak	Weak	Neutral	Strong	Very strong

4. Attention-deficit/hyperactivity disorder

1	2	3	4	5
Very weak	Weak	Neutral	Strong	Very strong

5. Depression

1	2	3	4	5
Very weak	Weak	Neutral	Strong	Very strong

6. Anxiety disorders

1	2	3	4	5
Very weak	Weak	Neutral	Strong	Very strong

7. Conduct disorder

1	2	3	4	5
Very weak	Weak	Neutral	Strong	Very strong

8. Asperger's disorder

1	2	3	4	5
Very weak	Weak	Neutral	Strong	Very strong

9. Autism

1	2	3	4	5
Very weak	Weak	Neutral	Strong	Very strong

How effective do you believe medication is generally in the treatment of:

1. Learning disorders

1	2	3	4	5
Very ineffective	Ineffective	Neither ineffective or effective	Effective	Very effective

2. Oppositional defiant disorder

1	2	3	4	5
Very ineffective	Ineffective	Neither ineffective or effective	Effective	Very effective

3. Disruptive behavior disorder

1	2	3	4	5
Very ineffective	Ineffective	Neither ineffective or effective	Effective	Very effective

4. Attention-deficit/hyperactivity disorder

1	2	3	4	5
Very ineffective	Ineffective	Neither ineffective or effective	Effective	Very effective

5. Depression

1	2	3	4	5
Very ineffective	Ineffective	Neither ineffective or effective	Effective	Very effective

6. Anxiety disorders

1	2	3	4	5
Very ineffective	Ineffective	Neither ineffective or effective	Effective	Very effective

7. Conduct disorder

1	2	3	4	5
Very ineffective	Ineffective	Neither ineffective or effective	Effective	Very effective

8. Asperger's disorder

1	2	3	4	5
Very ineffective	Ineffective	Neither ineffective or effective	Effective	Very effective

9. Autism

1	2	3	4	5
Very ineffective	Ineffective	Neither ineffective or effective	Effective	Very effective

Table D1

Descriptive Statistics of Parent and Child Measures

Scale	N	Minimum	Maximum	Mean	Std. deviation
BASC Externalizing	29	54.00	111.00	73.97	14.68
BASC Hyperactivity	29	50.00	96.00	71.55	12.63
BASC Aggression	29	46.00	107.00	71.55	17.23
BASC Conduct Prob.	24	48.00	111.00	71.17	16.30
Conners' Oppositional	29	45.00	90.00	73.28	13.92
Conners' Hyperactivity	29	42.00	90.00	75.07	14.73
Conners' ADHD	29	23.00	90.00	72.55	14.37
PLOC total score	30	81.00	119.00	100.20	8.72
PSOC total score	30	37.00	96.00	67.60	12.10

Parental Sense of Competence Scale

Please circle your answers for the following questions.

1. The problems of taking care of a child are easy to solve once you know how your actions affect your child, an understanding I have acquired.

1	2	3	4	5	6
strongly disagree	disagree	somewhat disagree	somewhat agree	agree	strongly agree

2. Even though being a parent could be rewarding, I am frustrated now while my child is at his/her present age.

1	2	3	4	5	6
strongly disagree	disagree	somewhat disagree	somewhat agree	agree	strongly agree

3. I go to bed the same way I wake up in the morning, feeling I have not accomplished a whole lot.

1	2	3	4	5	6
strongly disagree	disagree	somewhat disagree	somewhat agree	agree	strongly agree

4. I do not know why it is, but sometimes when I'm supposed to be in control, I feel more like the one being manipulated.

1	2	3	4	5	6
strongly disagree	disagree	somewhat disagree	somewhat agree	agree	strongly agree

5. My mother/father was better prepared to be a good mother/father than I am.

1	2	3	4	5	6
strongly disagree	disagree	somewhat disagree	somewhat agree	agree	strongly agree

6. I would make a fine model for a new mother/father to follow in order to learn what she/he would need to know in order to be a good parent.

1	2	3	4	5	6
strongly disagree	disagree	somewhat disagree	somewhat agree	agree	strongly agree

7. Being a parent is manageable, and any problems are easily solved.

1	2	3	4	5	6
strongly disagree	disagree	somewhat disagree	somewhat agree	agree	strongly agree

8. A difficult problem in being a parent is not knowing whether you're doing a good job or a bad one.

1	2	3	4	5	6
strongly disagree	disagree	somewhat disagree	somewhat agree	agree	strongly agree

9. Sometimes I feel like I'm not getting anything done.

1	2	3	4	5	6
strongly disagree	disagree	somewhat disagree	somewhat agree	agree	strongly agree

10. I meet my own personal expectations for expertise in caring for my child.

1	2	3	4	5	6
strongly disagree	disagree	somewhat disagree	somewhat agree	agree	strongly agree

11. If anyone can find the answer to what is troubling my child, I am the one.

1	2	3	4	5	6
strongly disagree	disagree	somewhat disagree	somewhat agree	agree	strongly agree

12. My talents and interests are in other areas, not in being a parent.

1	2	3	4	5	6
strongly disagree	disagree	somewhat disagree	somewhat agree	agree	strongly agree

13. Considering how long I've been mother/father, I feel thoroughly familiar with this role.

1	2	3	4	5	6
strongly disagree	disagree	somewhat disagree	somewhat agree	agree	strongly agree

14. If being a mother/father of a child were only more interesting, I would be motivated to do a better job as a parent.

1	2	3	4	5	6
strongly disagree	disagree	somewhat disagree	somewhat agree	agree	strongly agree

15. I honestly believe I have all the skills necessary to be a good mother/father to my child.

1	2	3	4	5	6
strongly disagree	disagree	somewhat disagree	somewhat agree	agree	strongly agree

16. Being a parent makes me tense and anxious.

1	2	3	4	5	6
strongly disagree	disagree	somewhat disagree	somewhat agree	agree	strongly agree

17. Being a good mother/father is a reward in itself.

1	2	3	4	5	6
strongly disagree	disagree	somewhat disagree	somewhat agree	agree	strongly agree

Appendix F

The Parental Locus of Control Scale

Please circle your answers for the following questions.

1. What I do has little effect on my child's behavior.

1	2	3	4	5
strongly disagree	disagree	neither agree nor disagree	agree	strongly agree

2. When something goes wrong between me and my child, there is little I can do to correct it.

1	2	3	4	5
strongly disagree	disagree	neither agree nor disagree	agree	strongly agree

3. Parents should address problems with their children because ignoring them won't make them go away.

1	2	3	4	5
strongly disagree	disagree	neither agree nor disagree	agree	strongly agree

4. If your child has tantrums, no matter what you try, you might as well give up.

1	2	3	4	5
strongly disagree	disagree	neither agree nor disagree	agree	strongly agree

5. No matter how hard a parent tries, some children will never learn to mind.

1	2	3	4	5
strongly disagree	disagree	neither agree nor disagree	agree	strongly agree

6. I am often able to predict my child's behavior in situations.

1	2	3	4	5
strongly disagree	disagree	neither agree nor disagree	agree	strongly agree

7. It is not always wise to expect too much from my child because many things turn out to be a matter of good or bad luck anyway.

1	2	3	4	5
strongly disagree	disagree	neither agree nor disagree	agree	strongly agree

8. When my child gets angry, I can usually deal with him/her if I stay calm.

1	2	3	4	5
strongly disagree	disagree	neither agree nor disagree	agree	strongly agree

9. When I set expectations for my child, I am almost certain that I can help him/her meet them.

1	2	3	4	5
strongly disagree	disagree	neither agree nor disagree	agree	strongly agree

10. There is no such thing as good or bad children—just good or bad parents.

1	2	3	4	5
strongly disagree	disagree	neither agree nor disagree	agree	strongly agree

11. When my child is well-behaved, it is because he/she is responding to my efforts.

1	2	3	4	5
strongly disagree	disagree	neither agree nor disagree	agree	strongly agree

12. Parents who can't get their children to listen to them don't understand how to get along with their children.

1	2	3	4	5
strongly disagree	disagree	neither agree nor disagree	agree	strongly agree

13. My child's behavior problems are no one's fault but my own.

1	2	3	4	5
strongly disagree	disagree	neither agree nor disagree	agree	strongly agree

14. Capable people who fail to become good parents have not followed through on their opportunities.

1	2	3	4	5
strongly disagree	disagree	neither agree nor disagree	agree	strongly agree

15. Children's behavior problems are often due to mistakes parents made.

1	2	3	4	5
strongly disagree	disagree	neither agree nor disagree	agree	strongly agree

16. Parents whose children make them feel helpless just aren't using the best parenting techniques.

1	2	3	4	5
strongly disagree	disagree	neither agree nor disagree	agree	strongly agree

17. Most children's behavior problems would not have developed if their parents had had better parenting skills.

1	2	3	4	5
strongly disagree	disagree	neither agree nor disagree	agree	strongly agree

18. I am responsible for my child's behavior.

1	2	3	4	5
strongly disagree	disagree	neither agree nor disagree	agree	strongly agree

19. The misfortunes and successes I have had as a parent are the direct result of my own behavior

1	2	3	4	5
strongly disagree	disagree	neither agree nor disagree	agree	strongly agree

20. My life is chiefly controlled by my child.

1	2	3	4	5
strongly disagree	disagree	neither agree nor disagree	agree	strongly agree

disagree

21. My child does not control my life.

1	2	3	4	5
strongly disagree	disagree	neither agree nor disagree	agree	strongly agree

22. My child influences the number of friends I have.

1	2	3	4	5
strongly disagree	disagree	neither agree nor disagree	agree	strongly agree

23. I feel like what happens in my life is mostly determined by my child.

1	2	3	4	5
strongly disagree	disagree	neither agree nor disagree	agree	strongly agree

24. It is easy for me to avoid and function independently of my child's attempts to have control over me.

1	2	3	4	5
strongly disagree	disagree	neither agree nor disagree	agree	strongly agree

25. When I make a mistake with my child I am usually able to correct it.

1	2	3	4	5
strongly disagree	disagree	neither agree nor disagree	agree	strongly agree

26. Even if your child frequently has tantrums, a parent should not give up.

1	2	3	4	5
strongly disagree	disagree	neither agree nor disagree	agree	strongly agree

27. I always feel in control when it comes to my child.

1	2	3	4	5
strongly disagree	disagree	neither agree nor disagree	agree	strongly agree

28. My child's behavior is sometimes more than I can handle.

1	2	3	4	5
strongly disagree	disagree	neither agree nor disagree	agree	strongly agree

29. Sometimes I feel that my child's behavior is hopeless.

1	2	3	4	5
strongly disagree	disagree	neither agree nor disagree	agree	strongly agree

30. It is often easier to let my child have his/her way than to put up with a tantrum.

1	2	3	4	5
strongly disagree	disagree	neither agree nor disagree	agree	strongly agree

31. I find that sometimes my child can get me to do things I really did not want to do.

1	2	3	4	5
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strongly disagree disagree neither agree nor
disagree agree strongly agree

32. My child often behaves in a manner very different from the way I would want him/her to behave.

1 2 3 4 5
strongly disagree disagree neither agree nor
disagree agree strongly agree

33. Sometimes when I'm tired I let my children do things I normally wouldn't.

1 2 3 4 5
strongly disagree disagree neither agree nor
disagree agree strongly agree

34. Sometimes I feel that I do not have enough control over the direction my child's life is taking.

1 2 3 4 5
strongly disagree disagree neither agree nor
disagree agree strongly agree

35. I allow my child to get away with things.

1 2 3 4 5
strongly disagree disagree neither agree nor
disagree agree strongly agree

36. It is not too difficult to change my child's mind about something.

1 2 3 4 5
strongly disagree disagree neither agree nor
disagree agree strongly agree

References

American Psychiatric Association. (2000). *Diagnostic and Statistical Manual of Mental*

Disorders (4th ed., text rev.). Washington, DC: Author.

Arnsten, A. F. T. (2006). Stimulants: Therapeutic actions in ADHD. *Neuropsychopharmacology*,

31, 2376-2383.

Bandura, A. (1989). Regulation of cognitive processes through perceived self-efficacy.

Developmental Psychology, 25, 729-735.

Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York: W.H. Freeman and Company.

Barkley, R. A. (2006). *Attention-deficit/hyperactivity disorder: A handbook for diagnosis and treatment* (3rd ed.). New York: Guilford Press.

Barkley, R. A., Edwards, G., Laneria, M., Fletcher, K., &Metevia, L. (2001). Executive functioning, temporal discounting, and sense of time in adolescents with attention deficit hyperactivity disorder (ADHD) and oppositional defiant disorders (ODD). *Journal of Abnormal Child Psychology, 29*, 541-556.

Bennett, D. S., Power, T. J., Rostain, A. L., & Carr, D. E. (1996). Parent acceptability and feasibility of ADHD interventions: Assessment, correlates, and predictive validity. *Journal of Pediatric Psychology, 21*, 643-657.

Breggin, P. R. (1999). Psychostimulants in the treatment of children diagnosed with ADHD: Risks and mechanisms of action. *International Journal of Risk & Safety in Medicine, 12*, 3-35.

Brown, R. T., & Borden, K. A. (1989). Attributional outcomes: The subtle messages of treatments for attention deficit disorder. *Cognitive Therapy and Research, 13*, 147-160.

Burke, J. D. Loeber, R., Lahey, B. B., Rathouz, P. J. (2005). Developmental transitions among affective and behavioral disorders in adolescent boys. *Journal of Child Psychology & Psychiatry, 46*, 1200-1210.

- Bussing, R., Korojungberg, M. E., Gary, F., Mason, D. M., & Garvan, C. W. (2005). Exploring help-seeking for ADHD symptoms: A mixed methods approach. *Harvard Review Psychiatry, 13*, 85-101.
- Bussing, R., Zima, B. T., Gary, F. A., & Garvan, C. W. (2003). Barriers to detection, help-seeking, and service use for children with ADHD symptoms. *The Journal of Behavioral Health Services and Research, 30*, 176-189.
- Campis, L. K., Lyman, R. D., & Prentice-Dunn, S. (1986). The Parental Locus of Control Scale: Development and validation. *Journal of Clinical Child Psychology, 15*, 260-267.
- Chang, C. Y. (1997). Acquisition and development of self-efficacy through cooperative learning. *Dissertation Abstracts International, 58*, 7-A. (UMI No. 9802841)
- Cervone, D. (1989). Effects of envisioning future activities on self-efficacy judgments and motivation: An availability heuristic interpretation. *Cognitive Therapy and Research, 13*, 247-261.
- Coleman, P. K. & Karraker, K. H. (1997). Self-efficacy and parenting quality: Findings and future applications. *Developmental Review, 18*, 47-85.
- Conners, C. K. (2000). *Conners' Rating Scales--Revised: Technical manual*. New York: Multi Health Systems.
- Donnerly, M., & Rapoport, J. L. (1985). Attention deficit disorders. In J.M. Weiner (Ed.), *Diagnosis and psychopharmacology of childhood and adolescent disorders* (pp. 179-197). New York: Wiley.
- Douglas, V. I., Barr, R. G., O'Neil, M. E., & Britton, B. G. (1986). Short-term effects of methylphenidate on cognitive, learning, and academic performance of children with

- attention deficit disorder in the laboratory and classroom. *Journal of Child Psychology and Psychiatry*, 27, 191-211.
- Epstein, J. N., Conners, C. K., Hervey, A. S., Tonev, S. T., Arnold, L. E., Abikoff, H. B., . . . Vitiello, B. (2006). Assessing medication effects in the MTA study using neuropsychological outcomes. *Journal of Child Psychology and Psychiatry*, 47, 446-456.
- Frick, P. J. (2004). Developmental pathways to conduct disorder: Implications for serving youth who show severe aggressive and antisocial behavior. *Psychology in the Schools*, 41, 823-834.
- Frick, P. J. (2001). Effective interventions for children and adolescents with conduct disorder. *Canadian Journal of Psychiatry*, 46, 597-608.
- Galejs, I. & Hegland, S. (1982). Locus of control and task persistence in preschool children. *Journal of Social Psychology*, 117, 227-231.
- Goldstein, S. (1999). Attention-deficit/hyperactivity disorder. In S. Goldstein & C. R. Reynolds (Eds.). *Handbook of neurodevelopmental and genetic disorders in children*. (pp. 154-184). New York: Guilford Press.
- Gopinath, S., Katon, W. J., Russo, J. E., & Ludman, E. J. (2007). Clinical factors associated with relapse in primary care patients with chronic or recurrent depression. *Journal of Affective Disorders*, 101, 57-63.
- Gordon, D. A., Jones, R. H., & Short, N. L. (1977). Task persistence and locus of control in elementary school children. *Child Development*, 48, 1716-1719.
- Greene, R. W., Biederman, J., Zerwas, S., Monuteaux, M. C., Goring, J. C., Faraone, S. V. (2002). Psychiatric comorbidity, family dysfunction, and social impairment in referred

- youth with oppositional defiant disorder. *American Journal of Psychiatry*, *159*, 1214-1224.
- Haidt, J. & Rodin, J. (1999). Control and efficacy as interdisciplinary bridges. *Review of General Psychology*, *3*, 317-337.
- Hautmann, C., Stein, P., Hanisch, C., Eichelberger, I., Pluck, J., Walter, D., Döpfner, M. (2009). Does parent management training for children with externalizing problem behavior in routine care result in clinically significant changes? *Psychotherapy research*, *19*, 224-233.
- Henker, B., & Whalen, C. K. (1980). The many messages of medication: Hyperactive children's perceptions and attributions. In S. Salzinger, J. Antrobus, & J. Glick (Eds.) *The ecosystem of the "sick kid"* (pp. 141-166). San Diego: Academic.
- Hoza, B., Owens, J. S., Pelham, W. E., Jr., Swanson, J. M., Conners, C. K., Hinshaw, S. P., . . . Kraemer, H. C. (2000). Parent cognitions as predictors of child treatment response in attention-deficit/hyperactivity disorder. *Journal of Abnormal Child Psychology*, *28*, 569-583.
- Ialongo, N. S., Lopez, M., Horn, W. F., Pascoe, J. M., & Greenberg, G. (1994). Effects of psychostimulant medication on self-perceptions of competence, control, and mood in children with attention deficit hyperactivity disorder. *Journal of Clinical Child Psychology*, *23*, 161-173.
- Jarratt, K. P., Riccio, C. A., & Siekierski, B. M. (2005). Assessment of attention deficit hyperactivity disorder (ADHD) using the BASC and BRIEF. *Applied Neuropsychology*, *12*, 83-93.

- Johnson, L. A. & Safranek, S. (2005). What is the most effective treatment for ADHD children? *The Journal of Family Practice, 54*, 166-168.
- Johnston, C., Hommersen, P., & Seipp, C. (2008). Acceptability of behavioral and pharmacological treatments for attention-deficit/hyperactivity disorder: Relations to child and parent characteristics. *Behavior Therapy, 39*, 22-32.
- Johnston, C. & Mash, E. J. (1989). A measure of parenting satisfaction and efficacy. *Journal of Clinical Child Psychology, 18*, 167-175.
- Jones, T. (2006). *Examining potential determinants of parental self-efficacy* (Doctoral dissertation). Available from ProQuest Dissertation & Theses Database. (UMI No. 3232514)
- Jones, T. L. & Prinz, R. J. (2005). Potential roles of parenting self-efficacy in parent and child adjustment: A review. *Clinical Psychology Review, 25*, 341-363.
- Kazdin, A. E., Holland, L., & Crowley, M. (1997). Family experience of barriers to treatment and premature termination from child therapy. *Journal of Consulting and Clinical Psychology, 65*, 453-463.
- Kazdin, A. E. & Wassell, G. (1999). Barriers to treatment participation and therapeutic change among children referred for conduct disorder. *Journal of Clinical Child Psychology, 28*, 160-172.
- Krain, A. L., Kendall, P. C., & Power, T. J. (2005). The role of treatment acceptability in the initiation of treatment for ADHD. *Journal of Attention Disorders, 9*, 425-434.
- Lovejoy, M. C., Verda, M. R., & Hays, C. E. (1997). Convergent and discriminant validity of measures of parenting efficacy and control. *Journal of Clinical Child Psychology, 26*, 366-376.

- MacNaughton, K. L. & Rodrigue, J. R. (2001). Predicting adherence to recommendations by parents of clinic-referred children. *Journal of Consulting and Clinical Psychology, 69*, 262-270.
- Maniadaki, K., Sonuga-Barke, E., Kakouros, E., & Karaba, R. (2005). Parents' causal attribution about attention deficit/hyperactivity disorder: The effect of child and parent sex. *Child Care, Health & Development, 31*, 331-340.
- Mash, E. J. & Johnston, C. (1983). Parental perceptions of child behavior problems, parenting self-esteem, and mothers' reported stress in younger and older hyperactive and normal children. *Journal of Consulting and Clinical Psychology, 51*, 86-99.
- Mash, E. J. & Johnston, C. (1990). Determinants of parenting stress: Illustrations from families of hyperactive children and families of physically abused children. *Journal of Clinical Child Psychology, 19*, 313-328.
- Mondell, S. & Tyler, F. B. (1981). Parental competence and styles of problem-solving/play behavior with children. *Developmental Psychology, 17*, 73-78.
- Morrissey-Kane, E. & Prinz, R. J. (1999). Engagement in child and adolescent treatment: The role of parental cognitions and attributions. *Clinical Child and Family Psychology Review, 2*, 183-198.
- MTA Cooperative Group. (1999). A 14-month randomized clinical trial of treatment strategies for attention-deficit/hyperactivity disorder. *Archives of General Psychiatry, 56*, 1073-1086.
- MTA Cooperative Group (2004a). National Institute of Mental Health multimodal treatment study of ADHD follow-up: Changes in effectiveness and growth after the end of treatment. *Pediatrics, 113*, 762-769.

- MTA Cooperative Group. (2004b). National Institute of Mental Health multimodal treatment study of ADHD follow-up: 24-month outcomes of treatment strategies for attention-deficit/hyperactivity disorder. *Pediatrics, 113*, 754-761.
- Nigg, J. T. (2006). Attention deficits and hyperactivity-impulsivity in children: A multilevel overview of causes and mechanisms. In Fitzgerald, H. E., Lester, B. M., Zuckerman, B. (Eds.) *The crisis in youth mental health: Critical issues and effective programs programs, Vol 1: Childhood disorders* (pp. 157-181). Connecticut: Praeger.
- Nissen, S. E. (2006) ADHD drugs and cardiovascular risk. *The New England Journal of Medicine, 354*, 1445-1449.
- O'Mahony, M., Lai, W. W., & Mulligan, A. (2009). P01-12 Study of the home environment and symptoms of inattention and hyperactivity in a clinic based sample. [Supplement] *European Psychiatry, 24*, S400-S400.
- Ohan, J. L., Leung, D. W., & Johnston, C. (2000). The Parenting Sense of Competence Scale: Evidence of a stable factor structure and validity. *Canadian Journal of Behavioural Science, 32*, 251-261.
- Olfson, M., Gameroff, M. J., Marcus, S. C., & Jensen, P. S. (2003). National trends in the treatment of attention-deficit hyperactivity disorder. *American Journal of Psychiatry, 160*, 1071-1077.
- Olson, S. L., Schilling, E. M., & Bates, J. E. (1999). Measurement of impulsivity: Construct coherence, longitudinal stability, and relationship with externalizing problems in middle childhood and adolescence. *Journal of Abnormal Child Psychology, 27*, 151-165.

- Owens, P. L., Hoagood, K., Horwitz, S. M., Leaf, P. J., Poduska, J. M., Kellam, S. G., Ialongo, N. S. (2002). Barriers to children's mental health services. *Journal of the American Academy of Child and Adolescent Psychiatry, 41*, 731-738.
- Pennebaker, J. W., Francis M. E., & Booth, R. J. (2001). *Linguistic Inquiry and Word Count (LIWC): LIWC2001*. Mahwah: Lawrence Erlbaum Associates.
- Petty, C. R., Monuteaux, M. C., Mick, E., Hughes, S., Small, J., Faraone, S. V., Biederman, J. (2009). Parsing the familiarity of oppositional defiant disorder from that of conduct disorder: A familial risk analysis. *Journal of Psychiatric Research, 43*, 345-352.
- Pekarik, G. & Stephenson, L. (1988). Adult and child client differences in therapy dropout research. *Journal of Clinical Child Psychology, 17*, 316-321.
- Perera, H., Fernando, S. M., Yasawardena, A. D. K. S. N., Karunaratne, I. (2009). Prevalence of attention deficit hyperactivity disorder (**ADHD**) in children presenting with self-inserted nasal and aural foreign bodies. *International Journal of Pediatric Otorhinolaryngology, 73*, 1362-1364.
- Pisterman, S. (1992). The effects of parent training on parenting sense and sense of competence. *Canadian Journal of Behavioural Science, 24*, 41-58.
- Price, T. S., Simonoff, E., Asherson, P. Curran, S., Kuntsi, J., Waldman, I., Plomin, R. (2005). Continuity and change in preschool ADHD symptoms: Longitudinal genetic analysis with contrast effects. *Behavior Genetics, 35*, 121-132.
- Prince, J., Russell, K. S., & Bostic, J. E. (2008). Diagnosis and pharmacotherapy of ADHD and comorbid psychiatric disorders. *Psychiatric Times, supplement perspectives in psychiatry, 25*, 7-11.

- Reich, S., Bickman, L., & Heflinger, C. A. (2004). Covariates of self-efficacy: Caregiver characteristics related to mental health services self-efficacy. *Journal of Emotional and Behavioral Disorders, 12*, 99-108.
- Reynolds, C. R. & Kamphaus, R. W. (2004). BASC-2 Behavior Assessment System for Children (2nd ed.), Circle Pines, MN: AGS Publishing.
- Rhee, S. H., Waldman, I. D., Hay, D. A., & Levy, F. (1999). Sex differences in genetic and environmental influences on DSM-III-R attention-deficit/hyperactivity disorder. *Journal of Abnormal Psychology, 108*, 24-41.
- Roberts, M. W., Joe, V. C., Rowe-Hallbert, A. (1992). Oppositional child behavior and parental locus of control. *Journal of Clinical Child Psychology, 21*, 170-177.
- Robison, L. M., Sclar, D. A., Skaer, T. L., & Galin, R. S. (2004). Treatment modalities among US children diagnosed with attention-deficit hyperactivity disorder: 1995-1999. *International Clinical Psychology, 19*, 17-22.
- Rotter, J. B. (1966). Generalized expectancies for internal versus external control of reinforcement. *Psychological Monographs, 80*, Whole No. 609, 1-28.
- Stadler, C., Grasmann, D., Fegert, J. M., Holtmann, M., Poustka, F., & Schmeck, K. (2008). Heart rate and treatment effect in children with disruptive behavior disorders. *Child Psychiatry and Human Development, 39*, 299-399.
- Starnes, D. M. & Zinser, O. (1983). The effect of problem difficulty, locus of control, and sex on task persistence. *The Journal of General Psychology, 108*, 249-255.
- Swaab-Barnveld, H., de Sonnevile, L., Cohen-Kettenis, P., Gielen, A., Buitelaar, J., & van England, H. (2000). Visual sustained attention in a child psychiatric population. *Journal of American Academy of Child and Adolescent Psychiatry, 39*, 651-659.

- Turgay, A. (2009). Psychopharmacological treatment of oppositional defiant disorder. *CNS Drugs*, 23, 1-17.
- Van Goozen, S. H. M. and Fairchild, G. (2006). Neuroendocrine and neurotransmitter correlates in children with antisocial behavior. *Hormones and Behavior*, 50, 647-654.
- Vaughn, M. L., Riccio, C. A., Hynd, G. W., & Hall, J. (1997). Diagnosing ADHD (predominantly inattentive and combined type subtypes): Discriminant validity of the Behavior Assessment System for Children and the Achenbach Parent and Teacher Rating Scales. *Journal of Clinical Child Psychology*, 26, 349-357.
- Waller, B. N. (2004). Comparing psychoanalytic and cognitive-behavioral perspectives on control. *Philosophy, Psychiatry, Psychology*, 11, 125-128.
- Zwaanswijk, M., Van der Ende, J., Verhaak, P.F.M., Bensing, J. M., & Verhulst, F. C. (2003). Factors associated with adolescent mental health service need and utilization. *Journal of the American Academy of Child and Adolescent Psychiatry*, 42, 692-700.