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# Parent adherence to psychologist recommendations: The role of expressed emotion about child and reaction to diagnosis

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**PARENT ADHERENCE TO PSYCHOLOGIST RECOMMENDATIONS:  
THE ROLE OF EXPRESSED EMOTION ABOUT CHILD AND REACTION TO  
DIAGNOSIS**

by

**LESLEY HETTERSCHEIDT**

**DISSERTATION**

Submitted to the Graduate School

of Wayne State University,

Detroit, Michigan

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for the degree of

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## TABLE OF CONTENTS

Acknowledgements.....	ii
List of Tables.....	iv
List of Figures.....	v
Chapter 1 Introduction.....	1
Chapter 2 Method.....	13
Chapter 3 Results.....	24
Chapter 4 Discussion.....	31
Chapter 5 Limitations/Future Directions.....	38
Appendix A: Assessment Outcomes Interview.....	46
Appendix B: Satisfaction Survey.....	49
Appendix C: Adherence Coding Guidelines.....	51
References .....	52
Abstract.....	57
Autobiographical Statement.....	59

## LIST OF TABLES

Table 1: Child and family demographics .....	40
Table 2: Parent characteristics.....	41
Table 3: Children's adjustment measures.....	42
Table 4: Change in scores over time by Expressed Emotion classification.....	43
Table 5: Change in scores over time by RDI classification .....	44

## LIST OF FIGURES

Figure 1: The assessment process and influence of parental factors on children's adjustment.....	45
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## CHAPTER 1

### Introduction

A 2008 survey of youth ages 12 to 17 done by the Substance Abuse and Mental Health Services Administration found that 12.7% of youth (3.1 million) received treatment for behavior or emotional problems in an inpatient or outpatient setting. A similar percentage of youths (11.8%) received mental health services in an education setting (U.S. Substance Abuse and Mental Health Administration, Office of Applied Statistics, 2009). For many of these children they struggle with both behavior and academic problems (Stagman & Cooper, 2010). For many children with significant behavioral or academic problems, the first course of action is to participate in a psychological evaluation. Upon completion of the evaluation parents receive an integrative report that typically includes any applicable mental health diagnoses and recommendations for how to improve the child's well-being (MacNaughton & Rodrigue, 2001). A meta-analysis done by Meyer et al. (2001) argues that psychological assessments are a valuable part of psychologists' jobs, and that it is the integrative nature of these assessments that is especially useful for clients.

However, relatively few studies have been conducted examining the utility of psychological assessments and the resulting report, or about parental adherence to psychologists' recommendations. This dissertation sought to examine parent adherence to written recommendations and its relation to children's adjustment following a psychological assessment. It also examined the role of parent Expressed Emotion toward the child and reaction to diagnosis in the process of adherence and child adjustment.

Mash and Wolfe (2005) have found that clinical assessments of children can only be effective and useful if they result in practical interventions to benefit the child. Others have demonstrated that early psychological intervention is important for the prevention of later psychopathology (Carter, Briggs-Gowan, & Davis, 2004). Since the limited research (Carter et al., 2004; Mash & Wolfe 2005, Meyer et al, 2001) conducted has found that in general, children and adults benefit from psychological assessments, it becomes important to quantify the degree to which assessments are helpful and to research factors that may increase the benefits of these assessments. One factor expected to have an impact on children's adjustment following a psychological assessment may be parental adherence to psychologists' recommendations. In the author's clinical experience, clinicians present these recommendations to parents, however, only rarely is there follow-up to check or encourage parental adherence to their recommendations. The published studies (i.e., Bennett, Power, Rostain & Carr, 1996; Dryer, O'Laughlin, Moore & Milam, 2010; Geffken, Keeley, Kellison, Storch, & Rodrigue 2006; King, Hovey, Brand, Wilson & Ghaziuddin, 1997; MacNaughton & Rodrigue, 2001) that have assessed parental adherence to psychological recommendations examine adherence broken up by recommendation type; such as medication consultation, psychological services, non-psychological professional services or school based interventions, as opposed to overall adherence. These studies also focused on children with only one diagnosis type, for example adherence among parents of children with ADHD (Bennett et al., 1996, Dryer et al., 2010). The current study focuses on overall adherence and examines adherence for a broader population that includes children referred for academic and/or behavioral problems.



### Recommendation Adherence

Research (Bennett et al., 1996; Geffken et al., 2006; King et al., 1997; MacNaughton & Rodrigue, 2001) has shown that adherence may vary in part based on the type of recommendations given to parents. For example, a study conducted with parents of children diagnosed with ADHD found that 72% of parents were compliant with recommendations for medication, whereas only 54% complied with recommendations for psychotherapy (Bennett et al., 1996). Similarly, 67% of parents of suicidal adolescents in an inpatient setting complied with medication recommendations, 51% were adherent to recommendations for individual psychotherapy and only 33% were adherent to recommendations for parent guidance and family therapy (King et al., 1997). These adherence rates are similar to those found with parents of children with educational and behavior problems (Joost, Chessare, Schacufele, Link, & Weaver, 1989). Joost et al. (1989), found that only 53% of these parents were adherent to recommendations for psychotherapy services. Another study that looked at adherence to numerous recommendation categories (MacNaughton & Rodrigue, 2001) found that 81% of parents were adherent to recommendations for non-psychological professional treatment (i.e., referrals to pediatricians). School-based recommendations were the next most followed type, with adherence rates of 69%. This type of recommendation includes activities such as tutoring, teacher consultation and classroom behavioral plans. Self-help recommendations, such as seeking out support groups, or home-based behavioral plans were adhered to 59% of the time. Finally, the lowest adherence rates (47%) were found for recommendations to psychological services, such as individual, group or family therapy, or further assessment. A 2010 study by Dryer et al. done with children diagnosed

with ADHD and using a likert scale for adherence found the highest rates of adherence for self-help recommendations (79%) followed by professional non-psychological, recommendations (78%), school based recommendations (61%) and lastly recommendations for psychological services (58%). Overall, research has found that adherence to psychologists' recommendations is around 50%, and thus an examination of parental adherence to further our understanding of these low rates will hopefully lead to ways of improving adherence.

Another body of research that does not directly assess parental adherence to report recommendations is nonetheless relevant (Kazdin, Holland, & Crowley, 1997; Luk et al, 2001). In two studies involving a sample of children with disruptive behavior disorders, Luk et al. found that even among parents that sought psychotherapy treatment for their children (a frequent report recommendation) there were dropout rates of 32% and 48%. Similarly, in another sample of parents and children with disruptive behavior disorders, Kazdin et al. (1997) found a dropout rate of 39% of families seeking treatment. It seems that not only is there a low percentage of parental adherence to psychologists' recommendations in general, but there are even lower adherence and attendance rates after parents initiate needed interventions.

### Barriers to Adherence

A few studies have examined factors hypothesized to affect parental adherence to psychologists' recommendations (Gefken et al, 2006; MacNaughton & Rodrigue, 2001). A study conducted by MacNaughton and Rodrigue found that adherence was affected by the number of barriers parents encountered when trying to follow-through on recommendations. These barriers included access problems (e.g., transportation

problems, physical limitations, or delays in insurance authorization), financial problems (e.g., lack of insurance or lack of income to pay for services), time and scheduling conflicts (e.g., parent is too busy to fit in appointments, or child is involved in numerous activities with limited free time) and negative parent attitudes and beliefs (e.g., negative perception of providers, or disagreement as to whether recommendation would be helpful). The number of barriers, rather than the type of barrier experienced by parents was predictive of adherence overall, but was most predictive of adherence to recommendations for psychotherapy. Many of the studies focusing on parental adherence evaluated adherence one to eight-months after the assessment was completed (Bennett et al., 1996; King et al., 1997; MacNaughton & Rodrigue, 2001). The current study was designed to evaluate parents at least one year after the completion of a psychological assessment. This may allow enough time to overcome certain barriers cited in the literature such as difficulty in scheduling, as well as enough time to see potential benefits of adhering to recommendations.

Research done by Geffken et. al (2006) indicates that there may be numerous parent factors above and beyond barriers and recommendation types that affect adherence to psychologists' recommendations. These parent factors include socio-demographic characteristics, attitudes and beliefs, perceived severity of the child's problems, self-efficacy, parents' mental and physical health status, and satisfaction with services. Research done by MacNaughton and Rodrigue (2001) indicates that parents may be less likely to adhere to report recommendations when: they have negative attitudes about mental health providers, they perceive that the recommendations are not related to their

child's presenting problem, they perceive that recommendations are too demanding, or they perceive that they are powerless to change things.

### Expressed Emotion

Family psychology theorists have long posited the importance and impact of parent factors on children's development. For example, in sociology, theorists Gottfredson and Hirschi (1990) postulate that it is the lack of parental concern for children (usually seen as hostility or lack of warmth directed at the child) that results in the lack of control often seen in children with anti-social behavior. One such factor that may capture this parental hostility and has been shown to be significantly associated with adjustment for children with numerous disorders is parental Expressed Emotion (Asarnow, Tompson, Hamilton & Goldstein, 1994; Stubbe, Zahner, Goldstein & Leckman, 1993).

Expressed Emotion consists of critical comments and comments that reflect emotional over-involvement made by family members towards a relative, or in the case of this study, parents toward their child (Magana et al., 1986). Expressed Emotion is most often coded from the Five Minute Speech Sample (FMSS, Magana et al., 1986). For the FMSS, the parent is asked to talk about his/her child and how he/she gets along with his/her child, uninterrupted, for five minutes. The FMSS is always administered at the beginning of the research protocol to help ensure that the parents' responses are not primed by any questions provided in the research protocol. The FMSS is unique in that the parents' answers are given spontaneously and not directed by the examiner.

Attachment theory may also help guide the understanding of parental factors that may have an impact on children, including those captured by Expressed Emotion. The research literature suggests that having an insecure attachment pattern puts children at

greater risk for negative outcomes (Martins & Gaffan, 2000). For example, research has found insecure attachment styles are related to externalizing problems in children (Erickson, Sroufe & Egeland, 1985). Attachment theorists such as Bowlby suggest that numerous parental factors such as sensitivity and responsiveness influence whether or not children have a secure attachment style. The criticality and emotional over-involvement in the Expressed Emotion coding system may reflect in part the negative parental qualities associated with insecure attachment styles. In fact, Jacobsen, Hibbs and Ziegenhain (2000) found that mothers high in Expressed Emotion were more likely to have children with an insecure-disorganized attachment style, however, this finding was not replicated in another study of attachment (Barnett et al., 2011). Attachment theory can serve as model for understanding how parental characteristics can have an impact on children's adjustment. Using this idea as a guide, it can be hypothesized that parental characteristics such as their Expressed Emotion toward their child can play a role in children's adjustment following a psychological assessment.

Expressed Emotion first gained merit as a construct in populations of individuals diagnosed with schizophrenia. Within these populations, Expressed Emotion was found to predict worse clinical outcomes such as patient relapse (Brown, Birley & Wing, 1972), a finding that was replicated in numerous other studies (Butzlaff & Hooley, 1998). Not only has Expressed Emotion been linked with worse clinical course and outcomes in individuals diagnosed with schizophrenia, it has also been linked to higher relapse rates for adults suffering from depression (Hooley & Teasdale, 1988).

Expressed Emotion is a construct most often measured with adult populations, but later research examined this construct with children. A 1993 study done by Stubbe et al.

found that children with behavior disorders have parents that were classified as more critical than parents of children with no disorders or disorders other than behavioral disorders. Asarnow et al. (1994) found that parents of children with depression were higher in Expressed Emotion than parents of children with schizophrenia spectrum disorders. Within their sample of children with depression, those who had parents with higher Expressed Emotion more often had comorbid behavior problems. A study by Hibbs, Hamburger, Lenane, and Rapport (1991) found that high Expressed Emotion may not be specific to a certain diagnosis. When they compared a sample of children with obsessive-compulsive disorder or disruptive behavior disorders to normal controls, they found that the children with disorders had parents higher in Expressed Emotion. However, within this group of children with disorders, higher levels of parental Expressed Emotion were not related to diagnosis.

The flip side of the argument that high parental Expressed Emotion is associated with negative consequences among children, is that low Expressed Emotion would be protective. A study done by McLeary and Sanford (2002) dealing with a sample of adolescents with depression found that this may in fact be the case. They found that low Expressed Emotion was associated with a lower chance for persistent major depressive disorder (MDD) in adolescents without other co-morbid conditions known to increase the persistence of MDD [e.g., attention deficit hyperactivity disorder (ADHD).] McLeary and Sanford, contrary to others (i.e., Asarnow et al., 1993) found no relation between High Expressed Emotion and depression persistence. It should be noted, however, that none of the studies on parental Expressed Emotion and child outcome were causal in nature. It may be that a child's problems lead to parents demonstrating High Expressed Emotion.

### Diagnosis Resolution

Another factor hypothesized to play a role in parental adherence is whether or not the parent has accepted or come to terms with a child's diagnosis. Parental resolution or acceptance of child diagnosis has been assessed using the Reaction to Diagnosis Interview (RDI, Marvin & Pianta, 1992). The RDI asks parents their initial reaction to the child's diagnosis as well as how their feelings about the diagnosis have changed over time. Parents can either be resolved about the diagnosis, which means they have accepted the diagnosis and recognize the child's limitations while focusing on moving on, or the parent may be unresolved about the diagnosis, blaming others for the child's condition, or demonstrating an unwillingness to accept the child's condition. The limited research on the RDI has found that parental resolution with the child's diagnosis was associated with higher rates of secure attachment style in young children (Barnett et al., 2006; Marvin & Pianta, 1996). The current dissertation was designed to examine whether or not parental resolution of child diagnosis was related to both parental adherence to recommendations and children's improvement following a psychological assessment.

The author acknowledges that there are numerous pathways and variables that can influence the adjustment of a child following a psychological assessment. For the purposes of this study, parental characteristics are focused on, specifically, parental adherence to report recommendations, parent criticality or emotional over-involvement (as measured by Expressed Emotion) and parental reaction to diagnosis (as measured by the Reaction to Diagnosis Interview). With that focus in mind, the following model (which is depicted in Figure 1) of assessment and adjustment is proposed.

A key aspect to the model is that the potential positive effects of a child assessment start with feedback to the parent including receiving a diagnosis (if one is warranted) as well as a list of recommendations intended to improve the well-being of the child. In this model a hypothesized pathway to adjustment may be through the recommendations provided following a psychological assessment and parental adherence to recommendations. It was hypothesized that adherence would have a direct impact on adjustment, in that children whose parents were more adherent to recommendations would have better adjustment. The model goes on to postulate that the parental factors of criticality or emotional over-involvement and parent's reaction to the child's diagnosis would have an impact on adherence. In this model, parents who are high in Expressed Emotion (critical or emotionally over-involved) would be less adherent to recommendations; in addition, being high in Expressed Emotion would also have a direct negative association with children's adjustment. This model also includes a hypothesized link between Expressed Emotion and reaction to diagnosis. That is, parents high in Expressed Emotion would be more likely to be unresolved regarding their child's diagnosis. In this model, reaction to diagnosis also was postulated to have an impact on both recommendation adherence and children's adjustment. If parents are unresolved about the diagnosis, they might not be focused on finding the best treatment for their child, or may be searching ineffectively for treatment options, which might be seen as poor adherence to recommendations. Additionally, being unresolved about the child's diagnosis might directly impact the well-being of the child, in that the parent may be unable to be supportive and sensitive to the child's needs based on his/her diagnosis.



Based on the existing literature and the proposed model, the author made the following hypotheses:

#### Hypothesis 1

Between the time of the assessment and the follow-up evaluation, children would show significant improvement on academic achievement scores and behavioral adjustment as reported by parents and teachers. Using an overall improvement coding system, parents also would report overall improvement in child functioning.

#### Hypothesis 2

Degree of parent adherence to recommendations would be associated positively with adjustment at follow-up and improvement over time.

#### Hypothesis 3

Expressed Emotion would be negatively associated with adherence.

#### Hypothesis 4

Expressed Emotion would be negatively associated with child improvement.

#### Hypothesis 5

Adherence would moderate the statistical relation between Expressed Emotion and improvement.

#### Hypothesis 6

Parents who were resolved in regards to their child's diagnosis would be more adherent to report recommendations compared to parents who were unresolved.

#### Hypothesis 7

Parents who were resolved in regards to their child's diagnosis would have children who demonstrated greater improvement than would parents who were unresolved.

### Hypothesis 8

Adherence would moderate the relation between parent's resolution in regards to diagnosis and improvement.

### Hypothesis 9

Expressed Emotion would be significantly negatively associated with parent resolution regarding child diagnosis.

## CHAPTER 2

### Method

#### *Participants*

Families who sought and completed a psychological assessment because of child learning and/or behavioral problems were recruited for this study from a psychology training clinic at a large, Midwestern urban university. To qualify for the study all families had to have received feedback on the results of a psychological assessment at least one year prior to being invited to participate in the study, and all children had to have completed the Weschler Intelligence Scale for Children – Fourth Edition. All children were referred for an assessment because of concerns about problems with behavior or school functioning. Families were identified from the clinic's database containing assessment information on all families that had been seen. In total, 72 families met criteria for the study. Of these, fifty-one (70%) agreed to participate. Of those who stated they were not interested, busy schedules and an inability to make the time commitment for research were the most common reasons given for not participating. Those who chose not to participate were sent a satisfaction survey to try and assess whether or not our non-participating group differed from our participating families in their level of satisfaction with services. Of the 21 surveys sent only 3 were returned, and thus no statistical comparison could be made. Qualitatively, however, both participating families and non-participating families reported being highly satisfied with the evaluation completed at the psychology clinic. In the current sample of 51, the children ranged in age from 8 to 16 ( $M = 11.22$ ,  $SD = 2.36$ ) and had IQ scores at time 2 ranging from 55 to 131 ( $M = 92.20$ ,  $SD = 16.24$ ). Boys made up 35 (69%) of the 51 participants and 27

(53%) of the 51 were African American. 90% of the parent respondents were biological mothers; the other 10% was composed of biological fathers or guardians (typically a female family member). Additionally, 34 (67%) children were given diagnoses following the initial assessment. Information on types of diagnoses and other demographic information about the current sample is presented in Table 1.

### *Procedure*

The child and his/her caregiver were scheduled for a four-hour participation block. An interviewer first explained both the consent and HIPAA confidentiality forms to the parent. The child was then taken to another room by a clinical psychology graduate student to complete the child measures. Parents remained with the interviewer and completed the Five Minute Speech Sample, the Reaction to Diagnosis Interview and the Assessment Outcomes Interview (see Appendix A). As part of the Assessment Outcomes Interview parents also completed a satisfaction survey (see Appendix B). The interviews were audio taped and later transcribed. Parents were then asked to complete the Child Behavior Checklist and a school information form including the name of the child's teacher and school. Parents were also given the Teacher Report Forms as well as self-addressed stamped envelopes so their child's teacher could return the forms directly to the researchers.

While parents were being interviewed, a graduate student administered a battery of tests to the child. The graduate student first received the child's oral assent and then administered the Integrated Auditory and Visual Continuous Performance Test, the Wechsler Intelligence Scale for Children, Fourth Edition, the Wechsler Individual Achievement Test- Abbreviated, and the Picture Arrangement subtest of the Wechsler

Intelligence Scale for Children-Third Edition and finally a combination of Roberts Apperception Test and Thematic Apperception Test cards. At the end of the assessment period, parents were asked if they had any questions. Parents were then given \$50 as compensation for their time and travel expenses.

### *Measures*

#### **Demographic & Descriptive**

##### Child Intake Form

During the initial assessment process parents completed the standard child intake form for the psychology clinic. This form includes information such as parental income, education level, marital status, and number of individuals living in the household. This form was used to obtain demographic information on the current sample.

##### Initial Assessment Report

Each participating family received an integrative psychological report following their initial assessment. This report was used to gather information on initial test scores as well as whether or not a diagnosis was given. The report was also used to gather information on the number and type of recommendations given.

##### Wechsler Intelligence Scale for Children- Fourth Edition (WISC-IV, Wechsler, 2003)

The WISC-IV is an individually administered, standardized psychometric measure of a child's cognitive functioning as compared to same-age peers. For the present study the ten required subtests of the WISC-IV were given to obtain intelligence scores. The WISC-IV is a widely used and well validated measure of intelligence.

#### **Parent Factors**

##### Five Minute Speech Sample (FMSS; Magana et al. 1986)

The FMSS is a measure in which parents are asked to talk about their child for five minutes without any interruption by the examiner. The measure was administered in the beginning of the parent battery to ensure that other measures did not influence parental responses. The parent responses were audio-taped and transcribed to ensure accuracy. Final coding was conducted from the audiotapes in order to use vocal inflection and tone for coding purposes. The sample was coded for critical comments, negative affect, positive affect, excessive praise, statements about the relationship, and the opening statement (whether it is positive, negative or neutral). A frequency count was gathered for critical and positive comments. Additionally statements of self-sacrifice, overprotection, or positive or negative relationship quality were scored for presence or absence. The variables were then combined to create the two constructs of criticism and emotional over-involvement.

Each FMSS was coded as high, borderline, or low on each construct. A high criticism score was given if the first statement made by the parent was negative (e.g., "he is a very angry child"), the relationship was described negatively (e.g., "we just don't get along at all"), or there was at least one critical comment (e.g., "I don't like that he's such a messy person"). A score of borderline indicates that there were comments made indicating dissatisfaction or negative affect but they were not severe enough to score as criticism (e.g., "I'd rather he was not like that"). The FMSS received a high score on the emotional over-involvement construct if there was tearfulness, if a statement was made reflecting a lot of self-sacrifice (e.g., "I don't spend money on myself, so that I can give it to my child") or overprotection of the child (e.g., "I take her with me everywhere I go, so she won't be home alone"), lack of objectivity (e.g., "he didn't graduate because the

teachers were too hard on him”) or four or more praising comments plus one or more statements of extreme love for (e.g., “I love my child more than anyone else in the whole world.”) or devotion to the child (e.g., “I’ll do anything for my child to make him happy”).

Two trained undergraduates coded all speech samples in this study. The undergraduates were trained by the author, who was previously trained by a coder officially trained in the coding of Expressed Emotion at the UCLA Family Center. The undergraduates were asked to code already scored speech samples from another study to determine initial reliability. Each rater coded every speech sample and the coding was then compared and all discrepancies were discussed until a final coding agreement was reached. Intraclass correlations for the FMSS, before coding was discussed and scores were agreed upon, was .70.

Since the FMSS was originally developed for families talking about an adult family member, the developers of the FMSS suggest a modification in the coding system when the FMSS was completed by parents regarding their young children (Jacobsen, Hibbs & Ziegenhain, 2000). This modification involves samples that are typically scored as borderline Expressed Emotion and thus given an overall rating of Low Expressed Emotion. In a FMSS with children, all borderline classifications should be re-classified as High Expressed Emotion. Since the current dissertation involved parents and their young children, using this modification to the original scoring system was warranted.

The Reaction to Diagnosis Interview and Scoring System (RDI; Marvin & Pianta, 1996; Pianta et al., 1996, 1999)

The RDI is a semi-structured interview specifically designed to assess parents' resolution of emotional trauma related to the experience of learning about their child's birth defects or chronic medical condition. Interview questions and probes asked parents about topics such as their emotional experiences related to receiving a formal diagnosis for their child, changes in their feelings since the initial perception of problems, and personal explanations they may have for their child's condition. All interviews were audio-taped, transcribed, and scored by the author and another upper-level graduate student. Both coders had been trained by an official RDI coder from another study. In Marvin and Pianta's system, each coder makes a judgment about the overall organizational pattern that best describes the configuration of elements present in a given interview, so that each subject was classified into a major category of Resolved or Unresolved, reflecting their general adaptation to their child's diagnosis. In the case of the present study, not all children had diagnoses. When this was the case the examiner would change the wording to "diagnosis or difficulties." Research of Marvin and Pianta (1996; Pianta et al., 1996, 1999) and Barnett et al., (1999) support the RDI's reliability and validity. For the current study all samples were coded by each of the two raters. Any samples involving scoring discrepancies were reevaluated in a meeting of the two raters and a final score was agreed upon. Prior to the resolution of discrepancies the intraclass correlation for reliability was .55.

#### Assessment Outcomes Interview - Adherence

The Assessment Outcomes Interview (see Appendix A), specifically created for the current study contained a section regarding parental adherence to report recommendations. This section asked parents about each of the recommendations and



then asked them to discuss whether or not they followed through, what they did, and for how long. A coding system was then created to analyze parental adherence to psychological recommendations given during the initial assessment (see Appendix C). The number of recommendations given following a psychological assessment ranged from 2 to 16 with a mean of 6.61 (SD = 2.68). Two undergraduate research assistants, trained by one of the developers of the coding system, coded all interviews.

Adherence was coded to determine if families were adhering to recommendations. Adherence was coded on a three-point scale from 0 to 2. A rating of “0” was given to families that reported not following the recommendation. A rating of “1” was given if a parent reported that they followed the recommendation but were unable to provide details as some evidence of adherence. This includes if families only tried a recommendation briefly, or only completed part of a recommendation. A rating of “2” was given if families were fully adherent. This included clear details as evidence of following the recommendation for a significant amount of time. The intraclass correlation coefficient for reliability of adherence ratings was 0.99.

### **Children’s Adjustment**

Five different measures were used to determine an overall improvement score for each child participant: The Assessment Outcomes Interview, the Child Behavior Checklist (Achenbach & Edelbrock, 1983), the Teacher Report Form (Achenbach, 1991 ) and the Wechsler Individual Achievement Test-Abbreviated (Wechsler, 2001) and the Wechsler Intelligence Scale for Children-Fourth Edition (Wechsler, 2003). The CBCL, TRF and WIAT-A were used as independent measures, but the information from these measures was also examined in conjunction with the assessment outcomes interview to

determine an overall improvement score as rated by psychologists. The measures are discussed individually below followed by a description of the overall psychologist rated improvement score.

#### Child Behavior Checklist (CBCL; Achenbach & Edelbrock, 1983)

The CBCL was completed by caregivers and was used to assess overall child symptomatology. This measure includes 118 items that indicate problems with adjustment. Items (e.g., “argues a lot”) are rated on a scale of 0 (not true), 1(sometimes true), or 2 (very true). This measure provides subscales for internalizing and externalizing behaviors. The CBCL is a widely used and well-validated measure of child psychopathology. Achenbach and Edelbrock (1983) reported 1-week test-retest reliability of .95 and 3-month test-retest reliability of .84 for total behavior problems. Concurrent validity of the CBCL is supported by significant correlations with other established measures of child behavioral functioning, and it also has been shown to discriminate between clinically-referred and non-clinically referred, “normal” children (Achenbach & Edelbrock, 1983). For the purposes of the present study internalizing and externalizing and total problems T scores were used to represent child functioning. For these T scores, higher scores indicated more dysfunction.

#### Teacher Report Form (TRF; Achenbach, 1991)

The TRF contains items and scales similar to those of the CBCL. The TRF is used for children ages 6-18 and is filled out by the child’s current teacher who has known the child for six months. The TRF consists of 113 items, using a 3-point scale. The measure is well-standardized and yields aged-normed T-scores for Internalizing and Externalizing problems, as well as a Total Problems score. The externalizing score on the TRF has a

15-day retest stability of 0.92 and an alpha of .90. The TRF is used as another source of data pertaining to the child's behavior. In the present sample, only 30 of the 51 TRF's sent out were returned and not all of the 30 were valid, thus no statistical analyses involving this measure were performed.

#### Wechsler Individual Achievement Test – Abbreviated (WIAT-A; Wechsler 2001)

The WIAT-A is a brief, standardized, individually administered measure of achievement that consists of three subtests, Spelling, Numerical Operations, and Word Reading. A total standard score is calculated, as well as standard scores for each subtest. The WIAT-A has test retest stabilities of .96 and .97 across different age groups from age 6 to 19.

#### Assessment Outcomes Interview - Improvement

In order to evaluate parent report of children's improvement, the Semi-Structured Interview for Assessment Outcomes created for this study was used. This interview contains a section specifically asking about changes the parent has seen in the child, and how the assessment process impacted the child (See Appendix A).

#### Overall Improvement Score

The coding system for Improvement took into consideration the CBCL, TRF and WIAT scores, as well as information from the WISC-IV and a portion of the Assessment Outcomes Interview in which parents discussed child improvement. This coding system utilized general guidelines, but also included a significant amount of clinical judgment. For this reason the coding was done by a fully licensed psychologist and a Ph.D. graduate student. The general guidelines for obtaining the overall improvement score were as follows: First, the referral question was examined to determine what the presenting

problems were (i.e., behavior problems at home and at school, peer difficulty and possible removal from special education). Then all of the documented problems were recorded (i.e., low IQ, reading difficulty, conduct problems). Clinical judgment was then used to assign improvement ratings for each of these areas. WISC-IV, WIAT, CBCL, TRF (when available), and parent report of improvement were used as bases for the improvement scores. For example WIAT scores were examined to see if areas of concern showed improvement or decrement. IQ scores were examined to determine if there was any significant change. Additionally, CBCL and TRF (if available) scores were evaluated to assess for improvement or decrement in problem areas.

Finally, the assessment outcomes interview was examined to identify parent report of improvement. While clinical judgment was used to determine improvement in the different domains, both raters have significant experience with test theory and construction and thus kept standard deviations in mind when examining changes in scores.

Each one of the problem areas was given an overall score from 0 to 3. A score of 0 would be assigned if there was indication that things have gotten worse since the assessment. A score of 1 would be assigned if there was no meaningful evidence of improvement. A score of 2 indicated mild evidence of improvement, and a score of 3 indicated clinically significant evidence of improvement. Then these overall scores were examined to see if a general shift had taken place (i.e., things leaning towards better or worse) and an overall improvement score was assigned. Following each overall rating of improvement, rationale for the rating was documented. For example, a child given an improvement rating of 3 may have rationale that includes: “significant improvement on

CBCL internalizing and externalizing scales, moderate improvement in 2 of 3 WIAT domains, parent interview indicates 90% better.” In case of unclear scores, degree of change would be examined. For example, if WIAT and IQ scores decreased slightly, but the teacher and parent ratings improved significantly and the parent was “amazed at the progress,” that would be sufficient to note significant improvement and assign a score of 3 for the overall improvement. Half the sample ( $n = 25$ ) was used to establish reliability, which resulted in an intraclass correlation of .85.

## CHAPTER 3

### Results

Of the 51 FMSS scored for Expressed Emotion, 24 (47%) were classified as high in Expressed Emotion (this includes those that were classically identified as High Expressed Emotion ( $n = 7$ ) as well as those that were classified as borderline ( $n = 17$ ), but for this sample were re-categorized as High Expressed Emotion (Jacobsen, et al., 2000), and 27 (53%) were classified as Low Expressed Emotion.

For the RDI, 3 cases (6%) were excluded due to non-completion of the interview or audio tape malfunctions. Of the 48 remaining interviews 34 (67%) were classified as resolved and 14 (27.5%) as unresolved (see Table 2).

Child improvement was coded on a 0-3 scale. Of the 51 interviews, 0 were rated as “got worse,” 18 (35%) were rated as “no significant evidence of improvement,” 17 (33%) were rated as “mild evidence of improvement” and 16 (31%) were rated as “clinically significant evidence of improvement.”

The semi-structured interview was also coded for adherence. An adherence proportion score was given that could range from 0 to 2. For the 51 interviews adherence scores ranged from .25 to 2.00 with a mean of 1.23 ( $SD = .43$ ).

#### Hypothesis 1

It was hypothesized that between the initial assessment and the follow-up evaluation children would show significant improvement on academic achievement scores. A repeated measures analysis of variance (repeated measures ANOVA) was performed. It should be noted that at the first assessment a full WIAT was given, but for the follow-up

assessment only a WIAT-A (screening) was given. For this reason the subtests that both measures have in common (Word Reading, Spelling, Numerical Operations) were averaged to create a time one adjusted composite score. Preliminary correlation analyses found significant correlations between WIAT and IQ scores ( $r = .54, p < .001$ ) and WIAT-A and IQ scores ( $r = .48, p < .001$ ). Since IQ at the two different assessment times was significantly correlated ( $r = .87, p < .001$ ) only IQ at the follow-up assessment was included in the analyses to determine whether or not it was a significant covariate. None of the demographic variables (age, gender, ethnicity) were associated with WIAT scores at either time point. With IQ included as a covariate, there was no multivariate main effect for WIAT scores over time (Wilks Lambda = .92,  $F(1,46) = 1.29, p = .29, \eta_p^2 = .08$ ).

It was also hypothesized that behavioral adjustment, as reported by parents would show improvement from the initial assessment to follow-up. The CBCL Internalizing Problems, Externalizing Problems and Total Problems scales were analyzed. Means and SDs for the CBCL measures can be seen in Table 3. None of the IQ or demographic variables were correlated with CBCL scores, and thus were not included as covariates in the model. Although a trend was noted in the expected direction (Table 3), the repeated measures ANOVAs examining CBCL scores during the first and second assessment found no significant difference between the means for Internalizing problems (Wilks Lambda = .94  $F(1,47) = 2.82, p = .10, \eta_p^2 = .06$ ), Externalizing Problems (Wilks' Lambda = .96  $F(1, 47) = 1.85, p = .18, \eta_p^2 = .04$ ) or Total Problems (Wilks Lambda = .94  $F(1,47) = 3.24, p = .08, \eta_p^2 = .07$ ). A repeated measures Multivariate Analysis of Variance (MANOVA) was performed analyzing the CBCL scales together in the same

model. There was no main effect found (Wilks' Lambda = .93  $F(1.46) = 1.09$ ,  $p = .36$ ,  $\eta_p^2 = .07$ ).

Finally it was hypothesized that psychologist ratings would indicate overall improvement in child functioning. There was a fairly even distribution of levels of psychologists' ratings of improvement and no parents were assigned a score of 0, as discussed previously (and seen in Table 3).

It should be noted that while the average follow-up time for assessment was 22 months, there was a wide range of re-assessment intervals spanning from 12 to 40 months. A mean split was used to divide our sample into shorter time elapsed before follow-up (0-22 months) and longer time elapsed before follow-up (23-40 months). ANOVAs were run to determine if the shorter or longer time elapsed groups differed significantly on any of the outcome measures. None of the main effects for any of our outcome/improvement measures or parent measures were significant.

#### Hypothesis 2

It was hypothesized that the degree of parent adherence to recommendations would be positively associated with adjustment at follow-up and improvement over time. Correlational analyses found that IQ at the follow-up assessment was significantly correlated with psychologists' ratings of improvement ( $r = .29$ ,  $p < .05$ ) and thus IQ was included as a covariate in the model. There was no main effect for Adherence  $F(1, 49) = .01$ ,  $p = .93$ ,  $R^2 = .00$ , and no interaction effect between IQ and adherence  $F(3, 47) = 1.86$ ,  $p = .15$ ,  $R^2 = .11$ . A separate regression identified a main effect for IQ  $F(1,49) = 4.52$ ,  $p < .05$ ,  $R^2 = .09$ . Specifically, the higher the child's IQ, the higher the psychologist rating of improvement. For children assigned a 1 on improvement the mean IQ was 86.33



(SD = 17.72 ), for those assigned a 2 it was 93.18 (SD = 15.48 ) and for those assigned a 3 it was 97.75 (SD = 13.85 ).

It was also hypothesized that adherence would be related to change in WIAT and CBCL scores over time. A repeated measures ANOVA for WIAT scores found no significant change in WIAT scores based on adherence (Wilks Lambda = .97,  $F(1, 45) = .06$ ,  $p = .81$ ,  $\eta_p^2 = .001$ ). There was also no significant change in CBCL Internalizing Scores (Wilks Lambda = .98  $F(1, 46) = .94$ ,  $p = .34$ ,  $\eta_p^2 = .02$ ); Externalizing Scores (Wilks Lambda = .99,  $F(1, 45) = .62$ ,  $p = .43$ ,  $\eta_p^2 = .01$ ) or Total Problems (Wilks Lambda = .99,  $F(1, 46) = .36$ ,  $p = .55$ ,  $\eta_p^2 = .01$ ), based on parental adherence.

### Hypothesis 3

It was hypothesized that Expressed Emotion would be negatively associated with adherence. That is that parents high in Expressed Emotion would be less adherent. None of the demographic or IQ variables were significantly correlated with Expressed Emotion. Although the mean adherence for the High Expressed Emotion group was lower (M = 1.13, SD = .41) than the mean adherence for the Low Expressed Emotion group, (M = 1.33, SD = .43), this difference was not statistically significant,  $F(1,49) = 3.04$ ,  $p = .09$ ,  $\eta_p^2 = .06$ .

### Hypothesis 4

It was hypothesized that Expressed Emotion would be negatively associated with psychologists' ratings of children's improvement at follow-up. ANOVA results indicate no significant difference between improvement scores for the different Expressed Emotion categories,  $F(1,49) = .49$ ,  $p = .49$ ,  $\eta_p^2 = .01$ . Data did, however, trend in the expected direction with the Low EE group having a higher average improvement score

( $M = 2.04$ ,  $SD = .85$ ) as compared to the average improvement score for the High EE group ( $M = 1.88$ ,  $SD = .80$ ). A repeated measures ANOVA for WIAT scores found no significant change in WIAT scores based on Expressed Emotion categories,  $F(1, 45) = .17$ ,  $p = .68$ ,  $\eta_p^2 = .00$ ). The results were actually in the opposite direction than would be expected in that those classified as Low in Expressed Emotion had a larger decrease in overall WIAT scores (4.4 point decrease) as compared to the High Expressed Emotion group (3.2 point decrease). There was also no significant change in CBCL Internalizing Scores,  $F(1, 46) = .30$ ,  $p = .58$ ,  $\eta_p^2 = .01$ ; Externalizing Scores,  $F(1, 46) = .63$ ,  $p = .43$ ,  $\eta_p^2 = .01$  or Total Problems,  $F(1, 46) = .97$ ,  $p = .33$ ,  $\eta_p^2 = .02$  based on parental Expressed Emotion Category. All CBCL scores for both High and Low Expressed Emotion groups decreased as would be expected, however the High Expressed Emotion group had larger decreases as compared to the Low Expressed Emotion group (see Table 4). It should be noted, as seen in Table 4, that the High Expressed Emotion group started out with higher (worse) overall CBCL scores.

#### Hypothesis 5

A multiple regression was run with Expressed Emotion and psychologists' ratings of improvement at follow-up; and parental adherence was included in the model to test for moderation. The interaction was added in as a last step, controlling for all main effects first. The interaction between Expressed Emotion and parental adherence was not significantly related to improvement scores at follow-up  $F(3, 47) = 2.24$ ,  $p = .09$ ,  $R^2 = .13$ ).

#### Hypothesis 6

It was hypothesized that parents who were resolved in regards to their child's diagnosis would report being more adherent to report recommendations compared to unresolved parents. Although the data trend in the expected direction with the Resolved group having a higher average adherence proportion ( $M = 1.27$ ,  $SD = .41$ ) than the Unresolved group ( $M = 1.06$ ,  $SD = .44$ ) this trend was not significant,  $F(1,46) = 2.50$ ,  $p = .12$ ,  $\eta_p^2 = .05$ ).

#### Hypothesis 7

An ANOVA was run to determine an association between resolution regarding child's diagnosis and psychologists' ratings of improvement at follow-up. The mean improvement score was almost equivalent for the Resolved ( $M= 1.94$ ,  $SD = .85$ ) and the Unresolved group ( $M=1.93$ ,  $SD = .83$ ) and thus the difference was not statistically significant,  $F(1, 46) = .002$ ,  $p = .96$ ,  $\eta_p^2 = .00$ . A repeated measures ANOVA for WIAT scores found no significant change in WIAT scores based on RDI Classification  $F(1, 44) = .05$ ,  $p = .82$ ,  $\eta_p^2 = .001$ . As with the EE classifications the results were in the opposite direction than would be expected in that those classified as Resolved had a larger decrease in overall WIAT scores (5.2 point decrease) as compared to the Unresolved group (3.7 point decrease). There was also no significant change in CBCL Internalizing Scores,  $F(1, 43) = 2.23$ ,  $p = .14$ ,  $\eta_p^2 = .05$ ; Externalizing Scores,  $F(1, 43) = .004$ ,  $p = .95$ ,  $\eta_p^2 = .00$  or Total Problems,  $F(1, 43) = .57$ ,  $p = .45$ ,  $\eta_p^2 = .01$ ) based on parental resolution regarding diagnosis. All CBCL scores for both RDI groups decreased as would be expected; however, the Unresolved group had larger decreases as compared to the Resolved group (see Table 5). As can also be seen in Table 5 the Unresolved group started out with higher overall CBCL scores.

### Hypothesis 8

It was hypothesized that adherence would moderate the relation between RDI classification and psychologists' ratings of improvement. A linear regression found that there was no significant interaction effect between Adherence and RDI on improvement,  $F(2, 47) = 2.37, p = .08, R^2 = .14$ . The interaction was added in as a last step, controlling for all main effects first.

### Hypothesis 9

A chi square was conducted to determine if there was any association between parent's diagnosis resolution and level of Expressed Emotion. Results indicated a significant association. The percentage of participants who were resolved regarding their child's diagnosis differed based on Expressed Emotion classification ( $\chi^2(1, N = 51) = 7.44, p = .01$ ). Specifically, of parents who were classified as Low Expressed Emotion, a significantly higher proportion of them (88%) were also classified as Resolved regarding their child's diagnosis. For parents who were classified as High Expressed Emotion there did not seem to be a difference between diagnosis resolution (52%) or lack of resolution (48%). Among those who were classified as High Expressed Emotion due to being Critical, 40% were Resolved whereas 60% were Unresolved. Of those classified as High Expressed Emotion due to being overinvolved 53% were Resolved and 42% were Unresolved regarding their child's diagnosis.

## CHAPTER 4

### Discussion

The present study was a preliminary examination of adjustment following a psychoeducational evaluation, and the role of parent adherence to report recommendations. Overall it seems that children either improve, or at the very least do not get worse, following a psychological assessment. Additionally, the present study found that children with higher IQs improve more than those with lower IQs. The present study also explored parent factors, including Expressed Emotion and diagnosis resolution that may impact both parental adherence and children's adjustment. It seems that overall parents are relatively adherent to report recommendations, but that this is not linked to Expressed Emotion nor to parental diagnosis resolution. It does seem, however, that parents classified as Low Expressed Emotion are more likely to be classified as Resolved regarding diagnosis.

It was hypothesized that academic scores would improve over time. The present study found no significant relation between WIAT scores at the initial assessment and WIAT screener scores at follow-up. In fact, the data trended in the opposite direction of what would be expected, in that, WIAT scores actually decreased from the initial to the follow-up assessment. This finding may be due in some part to the fact that the full WIAT battery was administered at the initial assessment, whereas only the WIAT screener was administered at the follow-up assessment. It may also be that children are not getting the extra help or school services needed to address any learning disabilities that may be present, or that school services are not translating into change on academic measures. Consistent with previous research (Deary, Strand, Smith, & Fernandez, 2007) the results

of the current study also support the fact that IQ matters, as children with higher IQs have better achievement scores. The majority of the present sample was lower IQ, which may be a reason why we did not see a significant amount of improvement in children.

It was also hypothesized that children would show improvement on parent rated behavior measures, but no significant change over time was found. In the present sample we had children with both academic and behavioral referrals. For those whose primary difficulties were with academics we would not expect significant behavior change over time. Our sample size was not large enough to split the sample into groups using referral question. Future studies would benefit from recruiting groups of children with identified behavior problems to address change over time. Similarly, future studies could also recruit samples of children referred solely for academic reasons, and evaluate change in academic scores over time. Another factor to consider is that the present study only contained information from parents. Numerous attempts were made to retrieve teacher rating forms, but unfortunately, not enough were returned to allow for analyses. Future studies would benefit from conducting follow-up assessments well into the school year and taking steps to try and increase return rates of teacher forms in order to have information from multiple raters. It may be that children are showing the most significant changes in school.

It was also hypothesized that children would demonstrate some level of improvement following a psychoeducational assessment. Consistent with previous research (Carter, et al., 2004; Mash & Wolfe 2005, Meyer et al, 2001) the current findings support the notion that children benefit from psychological evaluations. None of the children in the current sample were rated as having a decline over time. Two-thirds of the current sample had

either mild or clinically significant improvement over time. Since there was not quantitative improvement when specifically focusing on academic or behavior measures, the overall improvement score may be picking up on something unique as it looks at all of these factors together and takes into consideration parental report. Parents may be picking up on something not easily captured on assessment measures. It may also be that parents are attempting to present themselves and their children in the best light and so report improvement that is not supported by quantitative measures individually.

Overall, it seems that a large proportion of the parents in the current study are endorsing improvement in their children over time. The present study hypothesized that this improvement would be related to parental adherence to report recommendations, but the data did not support this hypothesis. One explanation for this may be that some recommendations matter more than others. For example, following through on a recommendation for therapy or tutoring may be more beneficial to a child than following through on a recommendation for nightly reading practice or flashcards. The current sample was not large enough to evaluate recommendation adherence and children's adjustment based on recommendation type. Other studies have looked at adherence in terms of specific recommendation type (Bennett et al., 1996; Geffken, et al., 2006; King, et al., 1997; MacNaughton & Rodrigue, 2001), but did not also assess children's improvement. Future studies may want to explore improvement and adherence for each type of recommendation.

#### Expressed Emotion

The present study focused on two different parental factors, Expressed Emotion and diagnosis resolution, to explore the relation between these factors and adherence and

child adjustment following a psychoeducational assessment. It was hypothesized that Expressed Emotion would be negatively associated with adherence. The data do trend in the expected direction with those classified as High Expressed Emotion having lower adherence scores; however, the relation was not significant. It was also hypothesized that Expressed Emotion would have a direct relation with children's improvement following an evaluation. Even though the relation was not significant, the Low Expressed Emotion group did have a slightly higher improvement score than the High Expressed Emotion group. It may be that with a larger sample size this relation would become significant.

In terms of specific change in WIAT scores, the data trended in the opposite of expected direction; that is, WIAT scores decreased more for the Low Expressed Emotion group as compared to the High Expressed Emotion group, although this relation was not significant. WIAT scores may have gone in the opposite direction due to the reasons stated earlier, such as using an abbreviated form of the WIAT in the follow-up assessment. In addition, it may be that Expressed Emotion scores do not significantly impact WIAT scores. It is possible that teacher factors play more of a role in children's scores on academic measures than parental factors.

For the CBCL all T-scores decreased as would be expected; however, the High Expressed emotion group had larger decreases than the Low Expressed Emotion group. It is important to note that the High Expressed Emotion group started out with higher T-scores on all scales. The CBCL has a limit on how low scores can go. Scores in this sample overall, especially in the Low Expressed Emotion group, did not start out very high and thus did not have much opportunity for a decrease in scores. None of the CBCL averages were in the clinically significant range (T score > 65). This suggests that any



decrease in average CBCL T-score is not particularly meaningful since the time 1 averages were not in the clinically significant range to begin with. Future studies could use the CBCL as a screening measure for children involved in the study, so that only children above the clinical cutoff for CBCL scores would be included in the study. In the present study we did not have enough children above the clinical cutoff in each group to run separate analyses.

### RDI

The other parental factor explored in the current study was diagnosis resolution. It was hypothesized that parents classified as Unresolved regarding diagnosis would be less adherent. Although the relation was not significant it was in the expected direction. It may be that with a larger sample size this relation would become significant. Similar to findings for Expressed Emotion, the relation between WIAT scores and RDI classification trended in the opposite of the expected direction; that is, WIAT scores decreased more for the Resolved group than for the Unresolved group, although this relation was not significant. The same reasons discussed for this opposite relation earlier may also apply for diagnosis resolution. Also, similar to Expressed Emotion scores, all CBCL T-scores decreased, as would be expected. Again these data were opposite than would be expected with the Resolved group having smaller decreases over time compared to the Unresolved group. Similar to Expressed Emotion findings, the Unresolved group had higher starting CBCL average T-scores (although none above clinical cutoffs). There was less room for CBCL scores to improve in the Resolved group, which may account for the smaller differences. As suggested earlier, future studies may want to only recruit participants above clinical cutoffs on CBCL scales.

Some of the non-significant findings may have been the result of using the RDI with our specific sample. The RDI was created to evaluate parents' reactions to physical diagnoses (Marvin & Pianta, 1996). It may be that it does not discriminate as well for psychological and learning disorder diagnoses. Furthermore, not all of the children in the sample were given a specific diagnosis following the evaluation. In this case the wording of the RDI was changed from "diagnosis" to "difficulties." This may be too far afield from the original purpose of the RDI and may be one of the reasons that no significant relations were found using the RDI. This suggests that future studies involving the RDI should focus only on children who received a specific diagnosis following a psychoeducational evaluation.

Finally, as predicted, there was a significant relation between Expressed Emotion and diagnosis resolution. Specifically, those who were low in Expressed Emotion, (did not express criticism or excessive involvement toward their children) were more likely to have accepted the child's diagnosis with a focus on moving on. Those who were high in Expressed Emotion did not differ in terms of diagnosis resolution. When this group was broken down further it was found that a larger percentage of those classified as High Expressed Emotion due to being critical were Unresolved regarding diagnosis. For those classified as High Expressed Emotion due to being over-involved there was no difference between parental diagnosis resolution classification. It may be that it is the presence or absence of parent characteristics associated with being critical that are more important in coming to terms with a child's diagnosis than the characteristics associated with being over-involved.

It should be noted that one general limitation of the present study was a small sample size, and thus limited power to detect effects. Given our sample size the power to detect a moderate effect (.35) was approximately .70. For the present study, in order to have the power to detect a smaller effect (.25) a sample size of approximately double our current size (105) would need to be attained. Many of the hypotheses explored had results that trended in the expected direction, but did not meet significance, thus a much larger sample size would have led to the power to detect smaller effect sizes.

## CHAPTER 5

### Future Directions

To the author's knowledge, no other study has been done examining both adjustment following psychological assessments and parental adherence to report recommendations. A large proportion of the work of psychologists involves psychological assessment, and yet we do not have research supporting the effectiveness of assessment and recommendations. This study is an important first step in creating a research base for helping to understand the importance of psychological report recommendations as well as parent follow-through on these recommendations. Researchers can take the lessons learned while conducting the present study to help shape future studies. These studies should be done with more specific referral populations, for example, focusing on children referred for only behavior problems, or for only academic problems. Recruitment may also benefit from using the CBCL as a screening measure for inclusion and focusing on children above clinical cutoffs on the CBCL scales.

Future studies with larger samples may also be able to examine parental adherence based on recommendation type. It may be that following through on tutoring, or therapy matters much more than following through on other recommendations. It is also likely that parental factors play a role in children's adjustment and adherence to recommendations. Future studies with larger samples may re-examine Expressed Emotion and diagnosis resolution as some of these parental factors, or may explore other parental factors, such as parental mental health, that may also impact children's adjustment and parent's adherence. The current study was correlational in nature. Future

randomized, clinical trials are necessary to determine if there may be a causal relationship between assessment and child improvement.

Table 1

*Child and Family Demographics*

	N	%
Gender		
Boys	35	31
Girls	16	69
Race		
White	22	43
African American	28	55
Other	1	2
Diagnoses		
None	17	33
ADHD <sup>1</sup>	17	33
LD <sup>2</sup>	14	27
ODD/CD <sup>3</sup>	5	10
Mood Disorders	6	12
Other <sup>4</sup>	9	18
Child Age (years)	M = 11.2 SD = 2.38	
WISC-IV FSIQ <sup>5</sup> Score (Time 2)	M = 92.2 SD = 16.2	

\*Note: WISC-IV scores are from the follow-up assessment.  
Average time between the initial assessment and follow-up assessment = 22 months

\*\*Note: 9 of the 34 children had more than one diagnosis that was coded.

1 = Attention-Deficit/Hyperactivity Disorder

2 = Learning Disability (Reading, Writing, Math)

3 = Oppositional Defiant Disorder/Conduct Disorder

4 = Other (NVLD, Enuresis, Phonological Processing Disorder, Borderline IQ)

5 = Wechsler Intelligence Scale for Children-Fourth Edition, Full Scale IQ Score

Table 2

*Parent Characteristics*

	N	%
Expressed Emotion		
High	24	47
Low	27	53
Diagnosis Resolution		
Resolved	34	67
Unresolved	14	28
Adherence Score		M = 1.23 SD = .43

Table 3

*Children's Adjustment Measures*

	Time 1	Time 2
WIAT <sup>1</sup> Total Composite	M =92.36 SD = 15.6	M =88.67 SD = 15.69
CBCL <sup>2</sup> Internalizing Problems	M = 55.8 SD = 12.2	M =53.7 SD = 9.7
CBCL <sup>2</sup> Externalizing Problems	M = 55.3 SD = 13.9	M = 53.4 SD = 10.8
CBCL <sup>2</sup> Total Problems	M = 57.8 SD = 13.5	M = 55.7 SD = 9.97
	N	%
Improvement		
Worse	0	0
No Evidence	18	35
Mild Evidence	17	33
Significant Evidence	16	31

\*Note: Average time between the initial assessment and follow-up assessment = 22 months

1 = Wechsler Intelligence Scale for Children-Fourth Edition, Full Scale IQ Score

2= Child Behavior Check List



Table 4  
*Change in Scores Over Time by Expressed Emotion Classification*

	Expressed Emotion					
	Low (n = 27)			High (n = 24)		
	Time 1	Time 2	Change	Time 1	Time 2	Change
WIAT <sup>1</sup> Total Composite	95	90.6	-4.4	89.7	86.5	-3.2
CBCL <sup>2</sup> Internalizing	55.5	54	-1.5	56.2	53.4	-2.8
CBCL <sup>2</sup> Externalizing	53.6	52.5	-1.1	57.2	54.3	-2.9
CBCL <sup>2</sup> Total Problems	55.9	54.8	-1.1	60	56.7	-3.3

1 = Wechsler Intelligence Scale for Children-Fourth Edition, Full Scale IQ Score

2 = Child Behavior Checklist

Table 5

*Change in Scores Over Time by RDI Classification*

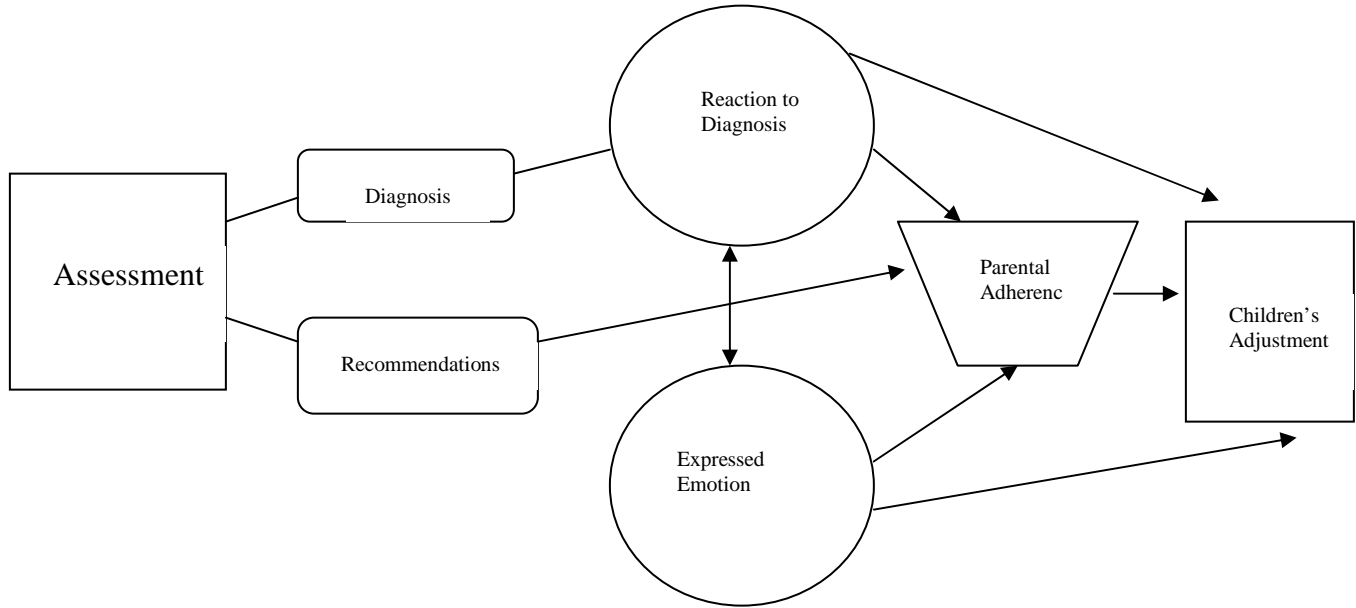
	RDI Classification					
	Resolved (n = 34)			Unresolved (n = 14)		
	Time 1	Time 2	Change	Time 1	Time 2	Change
WIAT <sup>1</sup> Total Composite	94.7	89.5	-5.2	88.3	84.6	-3.7
CBCL <sup>2</sup> Internalizing	53.9	52.7	-1.2	61.8	57.2	-4.6
CBCL <sup>2</sup> Externalizing	55.3	52.7	-2.6	59.6	57.1	-2.5
CBCL <sup>2</sup> Total Problems	56.1	54.4	-1.7	64.5	61	-3.5

1 = Wechsler Intelligence Scale for Children-Fourth Edition, Full Scale IQ Score

2 = Child Behavior Checklist

Figure 1

*The assessment process and influence of parental factors on children's adjustment*



## APPENDIX A

### Parent Interview

#### PART 1: General Questions

Now I want to ask you some questions regarding your previous visit to our clinic for your child's assessment.

1. How did you learn about our clinic?
2. Why were you seeking an evaluation of your child?
3. What do you remember to be the key outcomes or findings from your child's assessment?
4. Did your child receive a diagnosis?

**IF YES:**

- 4a) After receiving this diagnosis, did it fit with the issues you experience with your child?
- 4b) How has this diagnosis changed things for your child, if at all?
5. What did you find helpful about this assessment process?
6. What wasn't helpful about this assessment process?
7. What changes have you made since you brought your child in for an evaluation?
8. Did you have questions after completing the assessment? Please explain:

#### PART 2: Specific Recommendations

Now I am going to go over the specific recommendations that were made in your child's report and ask you some questions about whether you tried each recommendation, why or why not, and how useful you thought each was. These questions are a way to assess our clinical services and evaluate what we can change to make our services more effective. (Read first recommendation to parent)

**Recommendation #1**

Did you try this recommendation?

**If Yes**

A. For how long?

B. Did you think this recommendation helped?

Please explain.

C. Would you suggest any changes to this recommendation?

**If No**

A. Why did you choose not follow this recommendation?

B. Is there anything that would have helped you use this recommendation?

\*\*Repeat for all recommendations \*\*

**PART 3: Other Changes:**

1. What things not covered by these recommendations have you found helpful for your child?
2. Have you sought any additional evaluations or help for your child since the evaluation was completed?
3. What other things could we have said or done at the clinic to have made the assessment more useful to you and your child?

**PART 4: Evaluation of Child (parent report)**

1. Have you seen any changes or improvements in your child since coming to WSU?
  - i. What changes have you seen?
  - ii. What do you attribute to the changes, what do you see is the cause?
2. Do you think the assessment process helped you to better understand your child, or what your child is going through?

**IF YES:**

- i. What about the assessment helped you to understand better?

- ii. What do you think could have made an even bigger difference in helping you understand your child and what your child is going through?

\*\*\*Hand Parent the Overall Satisfaction Scale to complete. AFTER completion of this scale administer last question.\*\*\*

3. I know I've covered a lot here, but is there anything else that you would like to add that may help us improve our services?

## APPENDIX B

### Satisfaction Survey

#### PART 5: Overall Satisfaction:

For the next set of questions, please circle your level of satisfaction with our service using the following four choices from very unsatisfied to very satisfied:

1. Overall quality of our service:

Very Unsatisfied                      Unsatisfied                      Satisfied                      Very Satisfied

2. Professionalism of clinic Staff:

Very Unsatisfied                      Unsatisfied                      Satisfied                      Very Satisfied

3. Timeliness of service

Very Unsatisfied                      Unsatisfied                      Satisfied                      Very Satisfied

4. Thoroughness

Very Unsatisfied                      Unsatisfied                      Satisfied                      Very Satisfied

5. Quality of the report

Very Unsatisfied                      Unsatisfied                      Satisfied                      Very Satisfied

6. Having access to my child's actual test scores

Very Unsatisfied                      Unsatisfied                      Satisfied                      Very Satisfied

7. Quality of the feedback session

Very Unsatisfied                      Unsatisfied                      Satisfied                      Very Satisfied

8. Report was written in a manner that I could understand

Very Unsatisfied                      Unsatisfied                      Satisfied                      Very Satisfied

9. Willingness to answer your questions

Very Unsatisfied                      Unsatisfied                      Satisfied                      Very Satisfied

## 10. Competence of your child's clinician

Very Unsatisfied	Unsatisfied	Satisfied	Very Satisfied
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## 11. Usefulness of the recommendations

Very Unsatisfied	Unsatisfied	Satisfied	Very Satisfied
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## 12. Overall usefulness of the assessment process

Very Unsatisfied	Unsatisfied	Satisfied	Very Satisfied
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## 13. Reasonableness of the fee

Very Unsatisfied	Unsatisfied	Satisfied	Very Satisfied
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## Appendix C

### Adherence Coding Guidelines

#### Coding Adherence

1. Read through each recommendation and the parent's response to the recommendation. Try to determine if they actually were adherent to the recommendation, or just said they were.
  - a. To be coded and fully adherent the parent would have to provide evidence of how they were adherent and report attempting the recommendation for a significant period of time.
    - i. E.g. a parent that was recommended tutoring but only takes their child to one tutoring session is not fully adherent.
2. Scale
  - a. **0 = Not Adherent**
  - b. **1 = Some Evidence of Adherence**
    - i. Only tried it briefly
    - ii. Only tried part of the recommendation
  - c. **2 = Fully Adherent**
    - i. Significant evidence of following recommendation
    - ii. Evidence for following recommendation for a significant period of time

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**ABSTRACT****PARENT ADHERENCE TO PSYCHOLOGIST RECOMMENDATIONS:  
THE ROLE OF EXPRESSED EMOTION ABOUT CHILD AND REACTION TO  
DIAGNOSIS**

by

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For the majority of children with significant behavioral or academic problems at school, the first course of action is to participate in a psychological evaluation. Upon completion of the evaluation parents receive an integrative report containing numerous recommendations for how to improve the well-being of their child. Fifty-one child clients who were referred and completed a comprehensive assessment for behavioral or academic problems were recruited for this study. A year or more after the evaluations were completed, parents of the children were asked about each written report recommendation, whether or not it was followed, and reasons for non-adherence. Expressed Emotion and reaction to diagnosis were also coded for each parent.

Overall it seems that children either improve, or at the very least do not get worse following a psychological assessment. Additionally, the present study found that children with higher IQs improve more than those with lower IQ. Findings indicate parents are relatively adherent to report recommendations, but adherence is not linked to Expressed

Emotion or diagnosis resolution. It does seem, however, that parent's high in Expressed Emotion are more likely to be unresolved regarding diagnosis. This study served as an informative preliminary study that can help guide future research exploring the impact of psychological evaluations and the importance of parent characteristics, including adherence to report recommendations.



## **AUTOBIOGRAPHICAL STATEMENT**

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Lesley is an alumnus of The University of Michigan, attended internship at Pine Rest Christian Mental Health Center and is finishing her Ph.D. in Clinical Psychology at Wayne State University. She has had numerous research opportunities throughout her academic career, including studying children with autism, those with a birth defect, children who have experienced sexual abuse, children at an urban charter school and children who have received a psychological evaluation. Her specific interest lies in clinically applicable research related to children and families. In addition to numerous research opportunities she has had the opportunity to work in a variety of clinical settings. Her clinical experience includes outpatient group and individual therapy and assessments with both children and adults. It also includes therapy and assessments for adolescents and adults in an inpatient setting. Lesley has also had the opportunity to do group and individual work in an urban charter school in Detroit and to conduct a girls empowerment group at an urban middle school in Grand Rapids, Michigan. Lesley is currently employed as a full time clinician with Pine Rest Christian Mental Health Services and looks forward to incorporating clinically applicable research into her outpatient work.