Nine Categories on the ECBI: A Comprehensive View of ADHD Behavior Problems

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ABSTRACT

- This study uses two groups of clinic-referred children, one with a diagnosis of ADHD and one with low attention problem behaviors. We examine whether 9 categories on the ECBI can give a more comprehensive view of behavior problems than the Intensity and Problem Scales alone.
- Results showed that children with a diagnosis of ADHD scored significantly higher on all scales/categories of the ECBI, and showed more of an improvement on the *Attention Problems* category than the other group.
- The implications of these findings support the use of 9 categories of behavior as a supplement to the ECBI's Intensity and Problem Scales in order to get a more diverse look at children's problem behaviors.

INTRODUCTION

- The Eyberg Child Behavior Inventory (ECBI) assessment was developed to measure common disruptive behavior problems exhibited by children aged 2 to 16 years (Eyberg & Pincus, 1999).
- The ECBI measures child behaviors on an Intensity Scale to reflect the frequency of problem behaviors and a Problem Scale to reflect the degree to which parents tolerate behaviors.
- At the UC Davis CAARE Center, the ECBI Intensity and Problem Scales have been supplemented with 9 different child behavior problem categories (e.g., Dawdling, Table Manners, Obedience, Opposition/Anger, Verbal Expression, Destructiveness/Carelessness, Provocation/Fighting, Interrupting/Attention Seeking, and Attention Problems/Overactive) to give a more diverse picture of children's behavior problems and facilitate the development of treatment goals. Dr. Zebell at the CAARE Center used these categories to develop an ECBI Coaching Words form that therapists can use to focus on behaviors that are positive opposites of problem behaviors.
- ECBI Intensity and Problem Scales can be elevated for any number of behavior problems. Scale scores do not give information about change in targeted behavior problems.
- Attention Deficit Hyperactivity Disorder (ADHD) is characterized by symptoms of hyperactivity and inattention (DSM-IV, 1994), so it could be expected that children from this sample would have elevated scores on the "attention problems/overactive" category.

PURPOSE

- The purpose of the current study is to assess whether the 9 categories of behavior on the ECBI, used by the CAARE Center, can identify a pattern of behaviors exhibited by children with ADHD that may not be easily detected by the Intensity and Problem Scales alone.

HYPOTHESIS

- The 9 categories of behavior on the ECBI will show that children diagnosed with ADHD will have significantly higher scores on the *Attention Problems* category compared to children with low attention problem behaviors.
- The existence of *Attention Problem* behaviors for children diagnosed with ADHD will not have been detected by the Intensity and Problem Scales on the ECBI.
- ECBI scores in the 9 categories and the two main scales will improve from pre- to mid-assessment points for both groups of children.

METHOD

Participants
- 98 children referred to Parent Child Interaction Therapy (PCIT) for disruptive behaviors; 29 children with a diagnosis of ADHD, and 69 children with low attention problem behaviors.
- The sample for this study was ethnically diverse and had 79.3% male children participating in treatment (see Table 1 for complete demographics)
- The ADHD group had significantly more boys than girls because boys are more likely than girls to be diagnosed with ADHD (Sauver, et al., 2004). The ADHD group was significantly older than the low attention problem group, so Child Age was controlled for when necessary.

Measures
- At the start of treatment, therapists are provided with a Comprehensive 0-5 Assessment and Client Plan (ACP) which can include diagnostic information.
- The Child Behavior Checklist (CBCL) is a standardized parent-report measure of the severity of child behavior problems. It includes an Attention Problems scale.
- Dr. Nancy Zebell of the CAARE Center collapsed the 36 items on the ECBI (administered at each assessment point) into 9 categories that were clinically meaningful.
- The group of children diagnosed with ADHD was obtained through file review of ACP forms; the group of children with low attention problem behaviors was compiled from scores on pre-treatment CBCL measures.
- ECBI Intensity and Problem Scale scores from pre- and mid-assessment points of PCIT were examined along with scores on the 9 behavior categories.
- Each of the 9 categories of behavior are determined by responses to certain ECBI questions, as decided by the CAARE center.
- For instance, the *Attention Problem/Overactive* behavior category is determined by responses to the following ECBI questions:
  - Is easily distracted.
  - Has short attention span.
  - Fails to finish tasks or projects.
  - Has difficulty entertaining self alone.
  - Has difficulty concentrating on one thing.
  - Is overactive or restless.
  - Wets the bed. (Eyberg & Pincus, 1999)

RESULTS

Table 1: Descriptive Statistics

Demographics	ADHD Group	Low Attention Problems Group
Sex of Child* – % Boys	79.3	52.2
Cgvr Relationship – % Bio Parent	58.6	53.6
% Other Relative	10.3	21.7
% Foster	31.0	24.6
Cgvr Ethnicity – % Caucasian	31.0	50.7
% African American	31.0	21.7
% Latino	24.1	21.7
% Other	13.8	5.8
Child Ethnicity – % Caucasian	48.0	43.8
% African American	36.0	25.0
% Latino	12.0	28.1
% Other	4.0	3.1
Prenatal Substance Exposure (%)	76.0	66.7
Cgvr Marital Status – % Married/Cohabiting	44.8	39.1
Cgvr Sex – % Women	96.6	91.3
Maltreatment History – % Without	17.2	20.3
Mean Child Age (SD)*	5.48 (1.59)	4.01 (1.32)
Mean Cgvr Age (SD)	36.64 (12.33)	37.30 (13.01)
Mean Years Cgvr Education (SD)	12.09 (3.54)	12.45 (2.21)
Mean Type Maltreatment Hx (SD)	1.68 (1.19)	1.69 (1.25)

* = (p<0.05) Significant
The ADHD group has significantly more boys because boys are more likely than girls to be diagnosed with ADHD. The ADHD group is significantly older, but Child Age was controlled for in each category that had an effect.

Table 2: Differences in Scales and Subscales

	Difference between ADHD vs. non-ADHD	Both groups' change from pre- to mid-treatment	Only ADHD group change from pre- to mid-treatment
Intensity	***	***	NS
Problem	***	***	NS
Dawdling	***	+	NS
Table Manners	***	NS	NS
Obedience	***	**	NS
Opposition	***	***	NS
Verbal Expression	***	**	NS
Destructiveness	***	NS	NS
Aggression	***	***	NS
Interrupting	***	NS	NS
Attention Problems	***	NS	***

+ p<0.10, * p<0.05, ** p<0.01, ***p<0.001
NS = Not Significant

ECBI Intensity Scale

ECBI Intensity Scale

Attention Problem/Overactive Category
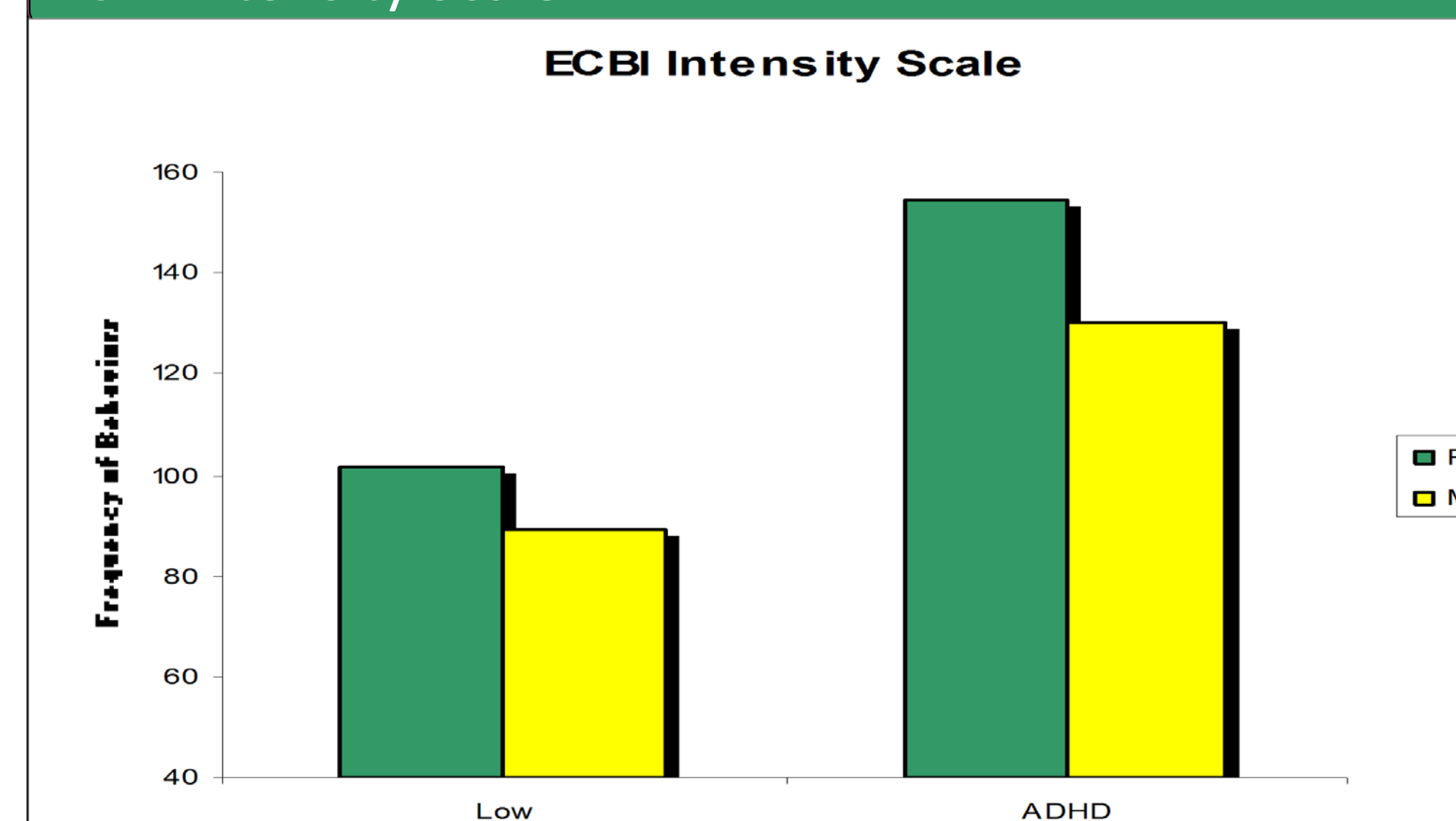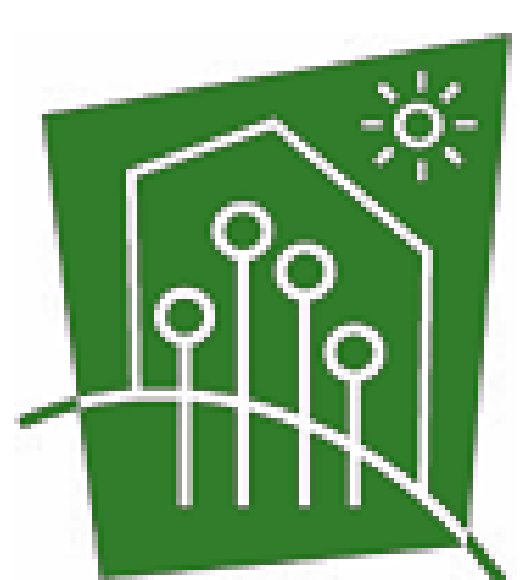

Attention Problem Intensity
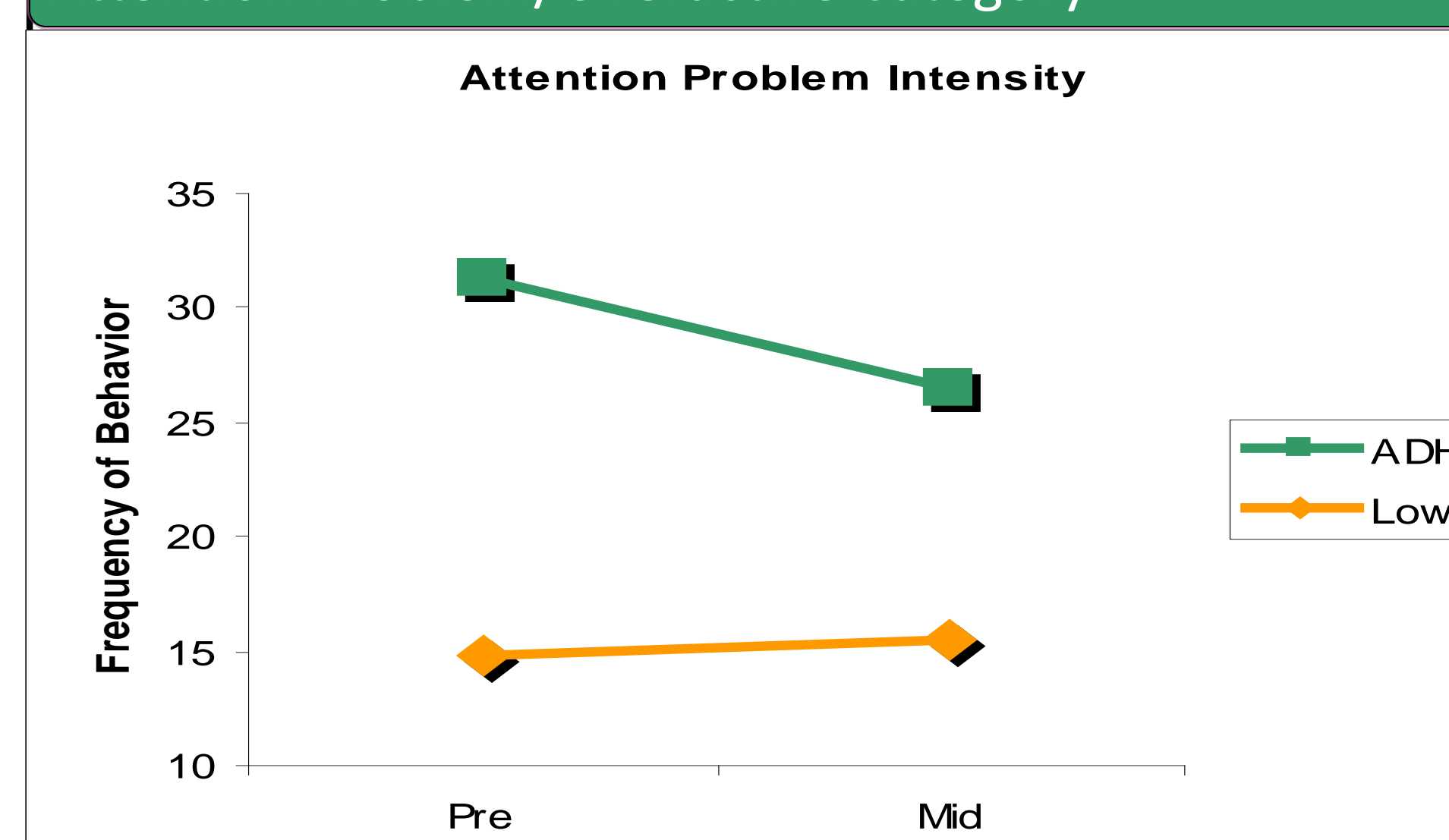
RESULTS cont.

- Children in the ADHD group were more likely to be older than children with low levels of attention problems, and more likely to be males.
- Overall, the ADHD group had significantly higher ECBI scores on both the Intensity and Problem Scales than the low attention problem group, but showed similar reductions in behavior problems from pre- to mid-treatment (see Graph 1).
- The ADHD group had significantly higher scores on all 9 categories of behavior than children in the low attention problem group (see Table 2).
- We observed significant decreases for both groups of children from pre- to mid-treatment on most, but not all scales. *Dawdling*, *Destructiveness* and *Interrupting* did not change significantly for either group.
- Children in the ADHD group showed significant reductions in attention problems from pre- to mid-treatment, while children with few attention problems did not change significantly.

DISCUSSION

- The purpose of this study was to examine the usefulness of 9 categories of behavior on the ECBI in pinpointing specific problem areas for children, making it easier for therapists to generate specific treatment goals and tailor their coaching to the needs of the client.
- Analyses investigating differences in ECBI Intensity and Problem Scales showed that children with ADHD diagnoses had more severe behavior problems than children with few attention problems, but that both groups' behavior problem levels decreased at a similar rate from pre- to mid-treatment, suggesting that the differences between groups are more a question of the intensity rather than the specific nature of different behavior problems.
- However, results of analyses of the 9 Intensity and Problem subscales suggested that the differences between these groups of children were both a reflection of variations in intensity and in the nature of the problems. While both groups of children were reported as having significantly lower scores at mid-treatment on many scales, only children with ADHD diagnoses showed significant reductions in *Attention Problem/Overactive* subscale scores.
- The ECBI Coaching Words form with 9 categories of disruptive behaviors has demonstrated its usefulness in helping PCIT therapists identify positive behavioral opposites to different types of problems. The results of this study show that scores for these categories have a promising clinical usefulness, discriminating between children with ADHD and children with low levels of attention problems when measured pre- and mid-treatment.
- The findings of this study support the use of these 9 behavior categories in identifying specific patterns of behavior in a diagnostic group of children.

CLINICAL IMPLICATIONS

- The results of this study reinforce the usefulness of supplementing the two ECBI main scales with 9 specific categories of behavior in order to better identify treatment goals.

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