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## ABSTRACT

The present study examined the effectiveness of a multimodal intervention for young children with ADHD. Fifty families were randomly assigned to three treatment conditions: (1) child group training only (N=18); (2) child and parent group training only (N=14); and (3) child and parent group training and parent/teacher consultation (N=18). Child, parent and teacher measures were administered at baseline, program completion, and 4-month follow-up. Repeated measures ANOVAs and preplanned comparisons (i.e., paired t-tests) with Dunn-Bonferroni adjustment were computed to test between group and within group effects. Effect sizes and Jacobson and Traux's (1991) standard of error of difference statistic were computed. C3 participants exhibited greater behavioral improvements on several parent-completed measures than C2 and C1 participants at program completion and four-month follow-up. C3 participants also exhibited more reduction in internalizing distress and transfer of treatment gains to the school at program completion and follow-up than C2 and C1 participants. (Author)

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Randomized Trial

RANDOMIZED TRIAL OF THREE CHILD/PARENT TRAINING

ED 472 961

Randomized Trial of Three Child/Parent Training Groups for ADHD Children  
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### Abstract

The present study examined the effectiveness of a multimodal intervention for young children with ADHD. Fifty families were randomly assigned to three treatment conditions: (1) child group training only (N=18); (2) child and parent group training only (N=14); and (3) child and parent group training and parent/teacher consultation (N = 18). Child, parent and teacher measures were administered at baseline, program completion, and 4-month follow-up. Repeated measures ANOVAs and preplanned comparisons (i.e., paired t-tests) with Dunn-Bonferroni adjustment were computed to test between group and within group effects. Effect sizes and Jacobson and Truax's (1991) standard error of difference statistic were computed. C3 participants exhibited greater behavioral improvements on several parent-completed measures than C2 and C1 participants at program completion and four-month follow-up. C3 participants also exhibited more reductions in internalizing distress and transfer of treatment gains to the school at program completion and follow-up than C2 and C1 participants.

## **Introduction**

Attention Deficit Hyperactivity Disorder (ADHD), a neurologic disorder, present in 3% to 5% of all school-aged children, accounts for more referrals to mental health and pediatric professionals than any other childhood disorder (Barkley, 1990). Children with ADHD exhibit severe developmentally inappropriate attention skills, impulsivity, hyperactivity, poor peer and family relations, and school difficulties. Because of the chronic and severe nature of this disorder, early intervention services are essential for both children and their parents.

Parents and teachers play a potentially critical role in promoting and generalizing treatment gains by promoting and reinforcing positive social behavior in children's environments. Group training offered to parents and children is an important component of treatment effectiveness. Behavioral consultation, a collaborative problem solving approach, is a particularly effective and efficient method for assisting families and educators to promote children's learning and social behavior (Bergan & Kratochwill, 1990). The efficacy of behavioral consultation with school-aged children has been well documented (Reddy, L., Barboza-Whitehead, S., Files, T., & Rubel, B., 2000). However, only one study has investigated the impact of parent/teacher behavioral consultation on children with ADHD (Sheridan & Colton, 1994).

The present study examined the effectiveness of an innovative program that incorporates child and parent group training and parent/teacher consultation for young children (age 4 to 8.5 years) with ADHD. This study also assessed the generalizability of child outcomes in the home and school.

## **Method**

### **Sample**

A total of 50 families were randomly assigned to three treatment groups. The child mean age was 75 months (6 years and 3 months,  $SD= 14$ ) and a range from 49 to 96 months. Condition

1 families (N=18) received child group training only. Thirteen boys and five girls participated. The child mean age was 80 months (6 years and 8 months, SD= 16) and a range from 52 to 102 months. Fifteen of the children were Caucasian, one was African American, one was Asian, and one was Hispanic. Subjects were enrolled in kindergarten through third grade. Maternal education level ranged from some college to Master's degrees, while paternal education ranged from less than high school to doctorate.

Condition 2 families (N=14) received child and parent training. Three girls and eleven boys participated. The child mean age was 86 months (7 years and 2 months, SD= 15) and a range from 61 to 103 months. Twelve of the children were Caucasian, one was African American, and one was Hispanic. Subjects were enrolled in kindergarten through third grade. Maternal and paternal educational levels ranged from less than high school to doctorate level.

Condition 3 families (N = 18) received child training group, parent training group, and home and school consultation. Condition 3 was composed of 17 boys and 1 girl, 15 Caucasian and 1 Hispanic. Subjects were enrolled in preschools through second grade. Maternal and paternal educational levels ranged from high school diploma to doctorate level.

### **Instrumentation**

The ADHD Clinic Parent Interview (Barkley, 1991), a semi-structured interview composed of 88 items, was administered to all parents. This interview collects information on the child's developmental, medical, academic, and social histories as well as information on paternal and maternal history. Child, parent, and teacher assessment instruments were administered at Time 1 (i.e., screening for the program), Time 2 (i.e., at program completion), and Time 3 (i.e., 4 month follow-up).

### **Procedures**

Parents that contacted Fairleigh Dickinson University's Child and Adolescent ADHD Clinic were administered a 1.5-hour interview. Parents were given several child and parent measures to complete. Doctoral students were trained on the administration/scoring of the

assessment instruments, group curriculum, and consultation model. Families included in the study met the following criteria: (1) the child was 4 to 8.5 years of age, (2) enrolled at a preschool or elementary school, (3) the child was diagnosed ADHD by a pediatric neurologist, (4) met the DSM-IV criteria for ADHD, and (5) exhibited clinically elevated scale scores (1.5 SD above the mean) on child measures.

### **Treatment**

**Parent Training Group.** Parents participated in a 1.5-hour weekly training group for 10 consecutive sessions. A modified version of Barkley's (1998) Parent Training Curriculum was used. Weekly homework assignments, which paralleled the skills taught in the child training group, were assigned. Educational/behavioral interventions were taught to improve social interactions at home, school, and in public settings.

**Child Training Group.** Children participated in a 1.5 hour weekly training group for 10 consecutive sessions. The children's training group included three goals: (1) improve children's social skills, (2) increase self control, and (3) enhance anger management. Skill development was fostered through positive reinforcement, symbolic and in vivo modeling, role-playing, and behavioral rehearsal. A token economy system was used to encourage the children to participate in group activities.

**Parent/Teacher Consultation.** Parents and teachers participating in Condition 1 were provided home and school behavior consultation. Consultation was provided by four doctoral students who were certified school psychologists. Consultants were trained for 8 hours on Bergan's Behavioral Consultation Model (1990) and received weekly group supervision. Parents and teachers were given 4 to 6 sessions each.

**Method of Analysis.** Six data analytic techniques were used: 1) descriptive statistics were computed between groups and across time; 2) repeated measures ANOVAs; 3) preplanned

comparisons with Dunn-Bonferroni correction; 4) gain score effect sizes (ES; Glass, McGaw, & Smith, 1981); and 5) within group ES (Smith & Glass, 1977).

### **Summary of Findings**

As shown on Tables 1 and 2, time main effects revealed that all three groups exhibited significant behavioral improvements across informants at program completion and 4-month follow-up. These results are noteworthy since research has indicated that untreated children with ADHD exhibit increasingly complex behavioral patterns over time (Ingram et al., 1999).

As hypothesized, C3 participants displayed greater behavioral improvements (e.g., CBCL, Conners' Rating Scale, SSRS) than C2 and C1 participants at program completion and follow-up. C3 participants exhibited greater reductions in internalizing distress in the home and school than C2 and C1 participants (see Tables 1, 2, 5, 6). In comparison to C2 and C1 participants, C3 yielded medium between group gain score ES values for decreasing parental stress as measured by the PSI-III's Child Domain and Parent Domain at program completion.

Generalizability of treatment gains to the school environment were found. In comparison to C1 and C2 participants, C3 produced large between group ESs on the TRF Total and Externalizing Scales and the CTRS-Social Problems Scale and medium ESs on the SSRS Problem Behaviors Scale and CTRS-Oppositional Scale at program completion. At 4-month follow-up, C3 participants maintained large between group ESs on the TRF Total and Externalizing Scales and the CTRS-Social Problems Scale and large to medium ESs on the SSRS Problem Behaviors Scale and CTRS-Oppositional Scale.

Overall, findings of the present study provide strong support for the superiority of C3. Home- and school-based behavioral consultation offers a robust addition to a multimodal treatment package for young children with ADHD.

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## **Outcome Assessment Measures**

### **Parent Measures**

1. Child Behavior Checklist (CBCL; Achenbach, 1991)
2. Conners' Parent Rating Scale – Revised (Conners, 1997)
3. FACES III (Olson, Portner, Lavee, 1985)
4. Home Situations Questionnaire - Revised (HSQ-R; DuPaul & Barkley, 1992)
5. Social Skills Rating System – Parent Form (SSRS; Gresham & Elliot, 1990)
6. Parental Expectancy Scale (PES; Eisen, 1997)
7. Parental Efficacy Scale (Reddy, 1998)
8. Parent Stress Index III (PSI-III; Abidin, 1995)

### **Teacher Measures**

1. Conner's Teacher Rating Scale - Revised (Conners, 1997)
2. Social Skills Rating System – Teacher Form (SSRS; Gresham & Elliot, 1990)
3. School Situations Questionnaire – Revised (SSQ-R; DuPaul, 1990)
3. Teacher Efficacy Scale (Emmer & Hickman, 1991)
4. Teacher Report Form (TRF; Achenbach & Edelbrock, 1980)

### **Child Measures**

1. Pictorial Scale of Perceived Competence and Social Acceptance for Young Children (Harter & Pike, 1983)

### **Consultant Measures**

1. Consultant Evaluation Form (Erchul, 1987)

Table 1

Results of Repeated Measures ANOVAs for Parent and Teacher Measures from Times 1 to 2

| <u>Measure</u>                | <u>Time</u><br><u>F<sup>a</sup></u> | <u>Time x Group</u><br><u>F<sup>a</sup></u> |
|-------------------------------|-------------------------------------|---|
| <b>Parent - completed</b>     |                                     |   |
| <u>Parental Stress</u>        |                                     |   |
| PSI-III Child Domain          | 17.82***                            | 0.72  |
| PSI-III Parent Domain         | 1.69                                | 0.24  |
| PSI-III Adaptability          | 4.82**                              | 0.36  |
| PSI-III Reinforces Parents    | 3.46**                              | 3.24**                                      |
| PSI-III Total Score           | 5.97***                             | 2.00*                                       |
| <u>Externalizing Problems</u> |                                     |   |
| CBCL Externalizing            | 9.51***                             | 0.84  |
| CBCL Aggression               | 17.28***                            | 2.72**                                      |
| CBCL Total                    | 10.98***                            | 3.04**                                      |
| CPRS-R Oppositional           | 20.71***                            | 2.56**                                      |
| CPRS-R Hyperactivity          | 0.02                                | 2.29*                                       |
| SSRS Problem Behaviors        | 1.85*                               | 2.38*                                       |
| <u>Social Skills</u>          |                                     |   |
| SSRS Social Skills            | 2.05*                               | 0.23  |
| CBCL Social Prob.             | 8.73***                             | 3.97***                                     |
| CPRS-R Social Prob.           | 5.35***                             | 0.33  |
| <u>Internalizing Problems</u> |                                     |   |
| CBCL Internalizing            | 2.22*                               | 7.74***                                     |
| CBCL Anxious/Depressed        | 5.52***                             | 12.04***                                    |
| CPRS-R Anxious/Shy            | 8.73***                             | 6.72***                                     |
| CPRS-R Somatic Complaints     | 3.51**                              | 2.64**                                      |
| <b>Teacher – completed</b>    |                                     |   |
| <u>Externalizing Problems</u> |                                     |   |
| TRF Externalizing             | 2.69*                               | .78   |
| TRF Aggression                | 15.40***                            | 1.65*                                       |
| TRF Total                     | 2.64*                               | 1.53  |
| CTRS-R Oppositional           | 2.51*                               | 0.46  |
| CTRS-R Hyperactivity          | 8.51***                             | 0.17  |
| SSRS Problem Behaviors        | 1.53                                | 0.98  |
| <u>Social Skills</u>          |                                     |   |
| SSRS Social Skills            | 11.44***                            | 0.44  |
| TRF Social Prob.              | 6.91***                             | 1.95*                                       |
| CTRS-R Social Prob.           | 1.34                                | 0.98  |
| <u>Internalizing Problems</u> |                                     |   |
| TRF Internalizing             | 0.02                                | 2.81**                                      |
| TRF Anxious/Depressed         | 4.03**                              | 2.63**                                      |
| CTRS-R Anxious/Shy            | 0.02                                | 2.29*                                       |

Note. <sup>a</sup> = \*  $p \leq .10$ , \*\*  $p \leq .05$ , \*\*\*  $p \leq .01$

Table 2  
Results of Repeated Measures ANOVAs for Parent and Teacher Measures from Times 1 to 3

| <b>Measure</b>                | <b>Time<br/>F<sup>a</sup></b> | <b>Time x Group<br/>F<sup>a</sup></b> |
|-------------------------------|-------------------------------|---------------------------------------|
| <b>Parent - completed</b>     |                               |                                       |
| <u>Parental Stress</u>        |                               |                                       |
| PSI-III Child Domain          | 13.42***                      | 0.00                                  |
| PSI-III Parent Domain         | 1.69*                         | 0.24                                  |
| PSI-III Adaptability          | 6.13***                       | 0.25                                  |
| PSI-III Reinforces Parents    | 7.03***                       | 1.18                                  |
| PSI-III Total Score           | 10.23***                      | 0.14                                  |
| <u>Externalizing Problems</u> |                               |                                       |
| CBCL Externalizing            | 9.82***                       | 0.57                                  |
| CBCL Aggression               | 4.90**                        | 1.01                                  |
| CBCL Total                    | 15.18***                      | 0.63                                  |
| CPRS-R Oppositional           | 19.15***                      | 1.18                                  |
| CPRS-R Hyperactivity          | 6.78***                       | 0.01                                  |
| SSRS Problem Behaviors        | 1.21                          | 2.16*                                 |
| <u>Social Skills</u>          |                               |                                       |
| SSRS Social Skills            | 13.62***                      | 0.04                                  |
| CBCL Social Prob.             | 5.56**                        | 0.57                                  |
| CPRS-R Social Prob.           | 9.50***                       | 0.70                                  |
| <u>Internalizing Problems</u> |                               |                                       |
| CBCL Internalizing            | 3.53*                         | 2.27                                  |
| CBCL Anxious/Depressed        | 0.97                          | 2.87                                  |
| CPRS-R Anxious/Shy            | 5.92***                       | 2.78**                                |
| CPRS-R Somatic Complaints     | 2.13                          | 2.00                                  |
| <b>Teacher – completed</b>    |                               |                                       |
| <u>Externalizing Problems</u> |                               |                                       |
| TRF Externalizing             | 0.00                          | 1.54                                  |
| TRF Aggression                | 0.07                          | 1.01                                  |
| TRF Total                     | 0.08                          | 1.18                                  |
| CTRS-R Oppositional           | 0.05                          | 0.21                                  |
| CTRS-R Hyperactivity          | 0.41                          | 1.39                                  |
| SSRS Problem Behaviors        | 0.41                          | 0.60                                  |
| <u>Social Skills</u>          |                               |                                       |
| SSRS Social Skills            | 4.12**                        | 0.20                                  |
| TRF Social Prob.              | 0.56                          | 0.37                                  |
| CTRS-R Social Prob.           | 0.09                          | 0.85                                  |
| <u>Internalizing Problems</u> |                               |                                       |
| TRF Internalizing             | 0.05                          | 2.06                                  |
| TRF Anxious/Depressed         | 0.25                          | 1.15                                  |
| CTRS-R Anxious/Shy            | 0.03                          | 1.36                                  |

Note. <sup>a</sup> = \*  $p \leq .10$ , \*\*  $p \leq .05$ , \*\*\*  $p \leq .01$

Table 3  
Paired t-tests for Parent and Teacher-Completed Measures from Times 1 to 2

| Subtest                       | C1        |                | C2        |                | C3        |                |
|-------------------------------|-----------|----------------|-----------|----------------|-----------|----------------|
|                               | t(df)     | p <sup>a</sup> | t(df)     | p <sup>a</sup> | t(df)     | p <sup>a</sup> |
| <b>Parent - completed</b>     |           |                |           |                |           |                |
| <u>Parental Stress</u>        |           |                |           |                |           |                |
| PSI-III Child Domain          | 1.36(16)  | .10*           | 2.32(10)  | .02**          | 5.42(16)  | .00***         |
| PSI-III Parent Domain         | -.02(16)  | .98            | 2.76(10)  | .01***         | 2.95(16)  | .01***         |
| PSI-III Adaptability          | .29(16)   | .39            | 1.53(10)  | .08*           | 1.89(16)  | .04**          |
| PSI-III Reinforces Parents    | 1.36(16)  | .10*           | .32(10)   | .38            | 2.46(16)  | .03**          |
| PSI-III Total Score           | .48(13)   | .32            | 2.95(10)  | .01***         | 1.67(16)  | .06*           |
| <u>Externalizing Problems</u> |           |                |           |                |           |                |
| CBCL Externalizing            | 1.22(15)  | .12            | 1.61(11)  | .07*           | -2.86(16) | .01***         |
| CBCL Aggression               | -.99(15)  | .17            | 2.16(11)  | .03**          | -4.10(16) | .00***         |
| CBCL Total                    | 0.47(15)  | .33            | 1.99(11)  | .04**          | -3.32(16) | .00***         |
| CPRS-R Oppositional           | 1.63(16)  | .06*           | 5.70(11)  | .00***         | 3.62(16)  | .00***         |
| CPRS-R Hyperactivity          | 1.25(16)  | .11            | 3.72(11)  | .00***         | 3.32(16)  | .00***         |
| SSRS Problem Behaviors        | .15(16)   | .50            | -.43(11)  | .34            | -2.40(16) | .02**          |
| <u>Social Skills</u>          |           |                |           |                |           |                |
| SSRS Social Skills            | -.48(16)  | .32            | -2.95(11) | .01***         | -.37(16)  | .36            |
| CBCL Social Prob.             | .52(15)   | .61            | 1.14(11)  | .14            | -3.96(16) | .00***         |
| CPRS-R Social Prob.           | .27(16)   | .40            | -1.15(11) | .28            | 4.05(16)  | .00***         |
| <u>Internalizing Problems</u> |           |                |           |                |           |                |
| CBCL Internalizing            | -.75(15)  | .46            | .80(11)   | .22            | -2.26(16) | .02**          |
| CBCL Anxious/Depressed        | .81(15)   | .43            | .49(11)   | .32            | -4.65(16) | .00***         |
| CPRS-R Anxious/Shy            | 1.79(16)  | .05**          | .83(11)   | .21            | 3.17(16)  | .00***         |
| CPRS-R Somatic Complaints     | .78(16)   | .22            | 2.86(11)  | .01***         | .73(16)   | .24            |
| <b>Teacher-completed</b>      |           |                |           |                |           |                |
| <u>Externalizing Problems</u> |           |                |           |                |           |                |
| TRF Externalizing             | .47(15)   | .32            | .26(8)    | .20            | 3.07(15)  | .00***         |
| TRF Aggression                | .33(15)   | .38            | 2.75(8)   | .01***         | 3.94(15)  | .00***         |
| TRF Total                     | .32(15)   | .38            | -.05(8)   | .96            | 3.63(15)  | .00***         |
| CTRS-R Oppositional           | -.33(15)  | .38            | 5.70(11)  | .00***         | 3.96(15)  | .00***         |
| CTRS-R Hyperactivity          | 2.50(15)  | .01***         | 3.72(11)  | .00***         | 4.75(15)  | .00***         |
| SSRS Problem Behaviors        | .45(15)   | .33            | -.10(8)   | .93            | 1.87(15)  | .04**          |
| <u>Social Skills</u>          |           |                |           |                |           |                |
| SSRS Social Skills            | -2.06(15) | .03**          | -1.03(8)  | .17            | -4.17(15) | .00***         |
| TRF Social Prob.              | -.47(15)  | .65            | 2.24(8)   | .03**          | 2.76(15)  | .01**          |
| CTRS-R Social Prob.           | .38(15)   | .36            | -2.47(8)  | .04            | 2.73(15)  | .01**          |
| <u>Internalizing Problems</u> |           |                |           |                |           |                |
| TRF Internalizing             | .07(15)   | .47            | -1.19(8)  | .27            | 1.00(15)  | .17            |
| TRF Anxious/Depressed         | .05(15)   | .48            | 1.93(8)   | .05**          | 1.90(15)  | .04**          |
| CTRS-R Anxious/Shy            | -1.5(15)  | .15            | -.55(8)   | .60            | 1.46(15)  | .08*           |

Note. <sup>a</sup> = \* p ≤ .10, \*\* p ≤ .05, \*\*\* p ≤ .01

Table 4  
Paired t-tests for parent-completed Measures from Times 1 to 3

| Subtest                       | C1        |                | C2       |                | C3        |                |
|-------------------------------|-----------|----------------|----------|----------------|-----------|----------------|
|                               | t(df)     | p <sup>a</sup> | t(df)    | p <sup>a</sup> | t(df)     | p <sup>a</sup> |
| <b>Parent - completed</b>     |           |                |          |                |           |                |
| <u>Parental Stress</u>        |           |                |          |                |           |                |
| PSI-III Child Domain          | 1.31(13)  | 0.11           | 2.10(7)  | 0.04**         | 3.08(8)   | 0.01***        |
| PSI-III Parent Domain         | -0.63(13) | 0.54           | 1.61(7)  | 0.08*          | 1.70(8)   | 0.06*          |
| PSI-III Adaptability          | 0.58(13)  | 0.29           | 2.41(7)  | 0.02**         | 1.59(8)   | 0.08*          |
| PSI-III Reinforces Parents    | 0.53(13)  | 0.30           | 0.67(7)  | 0.29           | 3.08(8)   | 0.08*          |
| PSI-III Total Score           | 0.21(13)  | 0.42           | 3.00(7)  | 0.01***        | 2.90(8)   | 0.01***        |
| <u>Externalizing Problems</u> |           |                |          |                |           |                |
| CBCL Externalizing            | 1.32(12)  | 0.11           | 0.78(7)  | 0.23           | 4.05(8)   | 0.00***        |
| CBCL Aggression               | 0.04(12)  | 0.48           | 0.26(7)  | 0.40           | 4.01(8)   | 0.00***        |
| CBCL Total                    | 1.13(12)  | 0.14           | 1.39(7)  | 0.10*          | 4.09(8)   | 0.00***        |
| CPRS-R Oppositional           | 2.46(12)  | 0.02**         | 1.65(7)  | 0.07*          | 3.52(8)   | 0.00***        |
| CPRS-R Hyperactivity          | 0.59(12)  | 0.28           | 1.98(7)  | 0.04**         | 9.51(8)   | 0.00***        |
| SSRS Problem Behaviors        | 1.31(11)  | 0.11           | 1.87(7)  | 0.05**         | 0.16(8)   | 0.44           |
| <u>Social Skills</u>          |           |                |          |                |           |                |
| SSRS Social Skills            | -1.71(11) | 0.06*          | -3.31(7) | 0.01***        | -2.29(8)  | 0.05*          |
| CBCL Social Prob.             | 0.20(12)  | 0.42           | 0.92(7)  | 0.20           | 3.19(8)   | 0.07*          |
| CPRS-R Social Prob.           | 1.59(12)  | 0.07*          | 0.53(7)  | 0.31           | 4.34(8)   | 0.00***        |
| <u>Internalizing Problems</u> |           |                |          |                |           |                |
| CBCL Internalizing            | -0.30(12) | 0.77           | 1.09(7)  | 0.21           | 1.63(8)   | 0.07*          |
| CBCL Anxious/Depressed        | -0.41(12) | 0.69           | 1.96(7)  | 0.05**         | 0.39(8)   | 0.70           |
| CPRS-R Anxious/Shy            | 1.97(12)  | 0.07*          | 0.78(7)  | 0.23           | 1.96(8)   | 0.04**         |
| CPRS-R Somatic Complaints     | 0.08(12)  | 0.57           | 0.41(7)  | 0.40           | 2.47(8)   | 0.02**         |
| <b>Teacher – completed</b>    |           |                |          |                |           |                |
| <u>Externalizing Problems</u> |           |                |          |                |           |                |
| TRF Externalizing             | -0.99(11) | 0.34           | -0.53(9) | 0.61           | 2.10(13)  | 0.03**         |
| TRF Aggression                | -0.93(11) | 0.37           | -0.43(9) | 0.67           | 2.41(13)  | 0.02**         |
| TRF Total                     | -0.85(11) | 0.41           | 1.41(9)  | 0.19           | 2.55(13)  | 0.01***        |
| CTRS-R Oppositional           | 3.06(12)  | 0.01***        | -1.17(8) | 0.28           | 3.76(13)  | 0.00***        |
| CTRS-R Hyperactivity          | 0.00(11)  | 1.00           | -1.07(8) | 0.32           | 2.42(13)  | 0.02**         |
| SSRS Problem Behaviors        | -0.91(11) | 0.38           | -1.58(8) | 0.15           | 2.03(13)  | 0.06*          |
| <u>Social Skills</u>          |           |                |          |                |           |                |
| SSRS Social Skills            | -1.97(11) | 0.04**         | -0.30(8) | 0.39           | -3.02(13) | 0.01***        |
| TRF Social Problems           | -1.71(11) | 0.12           | -1.61(9) | 0.14           | 1.38(13)  | 0.10*          |
| CTRS-R Social Problems        | -0.94(11) | 0.37           | -1.93(8) | 0.09*          | 2.73(13)  | 0.01***        |
| <u>Internalizing Problems</u> |           |                |          |                |           |                |
| TRF Internalizing             | -0.42(11) | 0.68           | -0.73(9) | 0.48           | 1.92(13)  | 0.04**         |
| TRF Anxious/Depressed         | -1.35(11) | 0.21           | -0.68(9) | 0.51           | 1.41(13)  | 0.09*          |
| CTRS-R Anxious/Shy            | -1.01(11) | 0.34           | -0.26(8) | 0.80           | 3.04(13)  | 0.01***        |

Note. <sup>a</sup> = \* p ≤ .10, \*\* p ≤ .05, \*\*\* p ≤ .01

Table 5  
Gain score Between Group Effect Sizes (ES) for Parent and Teacher Completed Outcome Measures for C1, C2, and C3 from Times 1-2

| Measure                       | C1-C2 | C2-C3 | C1-C3 |
|-------------------------------|-------|-------|-------|
| <b>Parent - completed</b>     |       |       |       |
| <u>Parental Stress</u>        |       |       |       |
| PSI-III Child Domain          | .10   | .47   | .54   |
| PSI-III Parent Domain         | .18   | .37   | .47   |
| PSI-III Adaptability          | .54   | -.06  | .47   |
| PSI-III Reinforces Parents    | -.55  | .79   | -.01  |
| PSI-III Total Score           | .22   | .24   | .39   |
| <u>Externalizing Problems</u> |       |       |       |
| CBCL Externalizing            | .01   | 1.03  | .80   |
| CBCL Aggression               | .39   | 2.46  | 1.93  |
| CBCL Total                    | .86   | 1.15  | 1.79  |
| CPRS-R Oppositional           | .14   | .38   | .38   |
| CPRS-R Hyperactivity          | -.52  | .62   | .13   |
| SSRS Problem Behaviors        | .96   | -.78  | .31   |
| <u>Social Skills</u>          |       |       |       |
| SSRS Social Skills            | .44   | .68   | .01   |
| CBCL Social Prob.             | 1.04  | 2.32  | 3.55  |
| CPRS-R Social Prob.           | -.31  | 1.83  | 1.63  |
| <u>Internalizing Problems</u> |       |       |       |
| CBCL Internalizing            | .94   | .54   | 1.51  |
| CBCL Anxious/Depressed        | .74   | 1.51  | 2.27  |
| CPRS-R Anxious/Shy            | -.34  | .32   | .05   |
| CPRS-R Somatic Complaints     | .05   | -.44  | -.20  |
| <b>Teacher – completed</b>    |       |       |       |
| <u>Externalizing Problems</u> |       |       |       |
| TRF Externalizing             | -.20  | .87   | .89   |
| TRF Aggression                | 1.37  | .27   | 1.61  |
| TRF Total                     | -.22  | 1.36  | 1.40  |
| CTRS-R Oppositional           | -.04  | .66   | .61   |
| CTRS-R Hyperactivity          | -.61  | .78   | .27   |
| SSRS Problem Behaviors        | -.21  | .85   | .66   |
| <u>Social Skills</u>          |       |       |       |
| SSRS Social Skills            | .14   | .38   | 1.16  |
| TRF Social Prob.              | 1.83  | .11   | 1.99  |
| CTRS-R Social Prob.           | -.42  | 1.33  | .80   |
| <u>Internalizing Problems</u> |       |       |       |
| TRF Internalizing             | -.49  | .77   | .25   |
| TRF Anxious/Depressed         | .53   | .14   | .64   |
| CTRS-R Anxious/Shy            | .12   | .58   | .53   |

Note. Positive effect size values indicate positive ES for C2 or C3 participants.

Table 6  
Gain Score Between Group Effect Sizes (ES) for Parent and Teacher Completed Outcome for Times 1-3

| Measure                       | C1-C2 | C2-C3 | C1-C3 |
|-------------------------------|-------|-------|-------|
| <b>Parent - completed</b>     |       |       |       |
| <u>Parental Stress</u>        |       |       |       |
| PSI-III Child Domain          | -.21  | .36   | .16   |
| PSI-III Parent Domain         | .08   | .41   | .44   |
| PSI-III Adaptability          | -.05  | .06   | .01   |
| PSI-III Reinforces Parents    | -.06  | .61   | .33   |
| PSI-III Total Score           | .21   | -.05  | .15   |
| <u>Externalizing Problems</u> |       |       |       |
| CBCL Externalizing            | .07   | .81   | 1.31  |
| CBCL Aggression               | .01   | 1.88  | 1.65  |
| CBCL Total                    | .36   | .68   | 1.12  |
| CPRS-R Oppositional           | -.19  | .68   | .46   |
| CPRS-R Hyperactivity          | -.35  | 1.08  | .69   |
| SSRS Problem Behaviors        | .23   | .15   | .36   |
| <u>Social Skills</u>          |       |       |       |
| SSRS Social Skills            | .23   | .06   | .30   |
| CBCL Social Prob.             | .39   | 1.03  | 1.69  |
| CPRS-R Social Prob.           | .26   | .73   | .92   |
| <u>Internalizing Problems</u> |       |       |       |
| CBCL Internalizing            | .40   | .72   | 1.14  |
| CBCL Anxious/Depressed        | .28   | .25   | .51   |
| CPRS-R Anxious/Shy            | .71   | .39   | -.15  |
| CPRS-R Somatic Complaints     | .10   | 1.19  | .28   |
| <b>Teacher-completed</b>      |       |       |       |
| <u>Externalizing Problems</u> |       |       |       |
| TRF Externalizing             | .68   | .94   | 1.93  |
| TRF Aggression                | -.03  | 1.18  | .49   |
| TRF Total                     | -.41  | 1.77  | 1.75  |
| CTRS-R Oppositional           | -.12  | .62   | .55   |
| CTRS-R Hyperactivity          | -.47  | .79   | .36   |
| SSRS Problem Behaviors        | -.49  | 1.50  | .60   |
| <u>Social Skills</u>          |       |       |       |
| SSRS Social Skills            | -.34  | .30   | .20   |
| TRF Social Prob.              | -.20  | 1.75  | 1.07  |
| CTRS-R Social Prob.           | -.78  | 1.08  | .42   |
| <u>Internalizing Problems</u> |       |       |       |
| TRF Internalizing             | -.38  | .71   | .52   |
| TRF Anxious/Depressed         | -.08  | .88   | .59   |
| CTRS-R Anxious/Shy            | -.06  | .53   | .40   |

Note. Positive effect size values indicate positive ES for C2 or C3 participants.

Table 7

Within Group Effect Sizes (ES) for Parent and Teacher Completed Outcome Measures Times 1-2

| <b>Measure</b>                | <b>C1</b> | <b>C2</b> | <b>C3</b> |
|-------------------------------|-----------|-----------|-----------|
| <b>Parent - completed</b>     |           |           |           |
| <u>Parental Stress</u>        |           |           |           |
| PSI-III Child Domain          | .37       | .71       | .97       |
| PSI-III Parent Domain         | .05       | .26       | .73       |
| PSI-III Adaptability          | .10       | .50       | .46       |
| PSI-III Reinforces Parents    | .41       | .08       | .44       |
| PSI-III Total Score           | .22       | .52       | .58       |
| <u>Externalizing Problems</u> |           |           |           |
| CBCL Externalizing            | .38       | .53       | .72       |
| CBCL Aggression               | .35       | .70       | 1.49      |
| CBCL Total                    | .22       | .76       | 1.49      |
| CPRS-R Oppositional           | .44       | .85       | .83       |
| CPRS-R Hyperactivity          | .33       | .02       | .93       |
| SSRS Problem Behaviors        | .11       | 1.18      | .15       |
| <u>Social Skills</u>          |           |           |           |
| SSRS Social Skills            | .16       | .61       | .19       |
| CBCL Social Prob.             | -.13      | .44       | .15       |
| CPRS-R Social Prob.           | .13       | -.05      | 1.34      |
| <u>Internalizing Problems</u> |           |           |           |
| CBCL Internalizing            | -.11      | .46       | .97       |
| CBCL Anxious/Depressed        | -.11      | .37       | 1.57      |
| CPRS-R Anxious/Shy            | .48       | .13       | .60       |
| CPRS-R Somatic Complaints     | .36       | .60       | .27       |
| <b>Teacher – completed</b>    |           |           |           |
| <u>Externalizing Problems</u> |           |           |           |
| TRF Externalizing             | .09       | .00       | .51       |
| TRF Aggression                | .04       | .68       | 1.01      |
| TRF Total                     | .11       | .03       | .81       |
| CTRS-R Oppositional           | .44       | -.12      | .85       |
| CTRS-R Hyperactivity          | .33       | -.04      | .92       |
| SSRS Problem Behaviors        | .13       | -.02      | .55       |
| <u>Social Skills</u>          |           |           |           |
| SSRS Social Skills            | .43       | .32       | 1.50      |
| TRF Social Prob.              | -.04      | .57       | .74       |
| CTRS-R Social Prob.           | .13       | -.27      | .64       |
| <u>Internalizing Problems</u> |           |           |           |
| TRF Internalizing             | .11       | -.11      | .25       |
| TRF Anxious/Depressed         | .03       | .55       | .48       |
| CTRS-R Anxious/Shy            | .48       | -.03      | .33       |

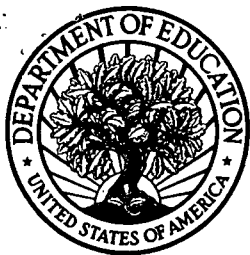
Note. Positive effect size values indicate positive ES for C2 or C3 participants.



**Table 8**  
**Within Group Effect Sizes (ES) for Parent and Teacher Completed Outcome Measures Times 1-3**

| <b>Measure</b>                | <b>C1</b> | <b>C2</b> | <b>C3</b> |
|-------------------------------|-----------|-----------|-----------|
| <b>Parent - completed</b>     |           |           |           |
| <u>Parental Stress</u>        |           |           |           |
| PSI-III Child Domain          | .46       | .50       | .77       |
| PSI-III Parent Domain         | .10       | .22       | .76       |
| PSI-III Adaptability          | .31       | .31       | .37       |
| PSI-III Reinforces Parents    | .20       | .25       | .48       |
| PSI-III Total Score           | .29       | .60       | .49       |
| <u>Externalizing Problems</u> |           |           |           |
| CBCL Externalizing            | .35       | .53       | .95       |
| CBCL Aggression               | .18       | .25       | 1.02      |
| CBCL Total                    | .52       | .92       | 1.84      |
| CPRS-R Oppositional           | .48       | .49       | .95       |
| CPRS-R Hyperactivity          | .29       | .11       | 1.54      |
| SSRS Problem Behaviors        | .41       | .91       | .33       |
| <u>Social Skills</u>          |           |           |           |
| SSRS Social Skills            | .44       | .86       | .73       |
| CBCL Social Prob.             | .25       | .57       | .83       |
| CPRS-R Social Prob.           | .38       | .53       | 1.22      |
| <u>Internalizing Problems</u> |           |           |           |
| CBCL Internalizing            | .13       | .40       | .95       |
| CBCL Anxious/Depressed        | .16       | .36       | .59       |
| CPRS-R Anxious/Shy            | .76       | -.00      | .67       |
| CPRS-R Somatic Complaints     | .04       | .14       | .58       |
| <b>Teacher – completed</b>    |           |           |           |
| <u>Externalizing Problems</u> |           |           |           |
| TRF Externalizing             | -.31      | -.04      | .50       |
| TRF Aggression                | .03       | .00       | .70       |
| TRF Total                     | -.13      | -.22      | .62       |
| CTRS-R Oppositional           | .48       | -.36      | .66       |
| CTRS-R Hyperactivity          | .29       | -.28      | .62       |
| SSRS Problem Behaviors        | -.05      | -.35      | .41       |
| <u>Social Skills</u>          |           |           |           |
| SSRS Social Skills            | .64       | .09       | 1.27      |
| TRF Social Prob.              | -.13      | -.23      | .31       |
| CTRS-R Social Prob.           | .38       | -.69      | .37       |
| <u>Internalizing Problems</u> |           |           |           |
| TRF Internalizing             | .01       | -.17      | .30       |
| TRF Anxious/Depressed         | -.13      | -.32      | .22       |
| CTRS-R Anxious/Shy            | .76       | -.01      | .38       |

Note. Positive effect size values indicate positive ES for C2 or C3 participants.



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