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**The Effect of Varying Levels of Reading Delimitations on the Ability of Students with Disruptive Behavior Disorders Admitted to a Residential Treatment Center to Demonstrate Language-Based Pro-Social Behavior Replacement Skills**

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The Effect of Varying Levels of Reading Delimitations on the Ability of Students with  
Disruptive Behavior Disorders Admitted to a Residential Treatment Center to  
Demonstrate Language-Based Pro-Social Behavior Replacement Skills

By

Tanya D. Wright

A Dissertation

Presented to the Faculty of  
The Graduate College of the University of Nebraska  
In Partial Fulfillment of Requirements

For the Degree of Doctor of Education  
In Educational Administration

Omaha, Nebraska

2011

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**Abstract**

THE EFFECT OF VARYING LEVELS OF READING DELIMITATIONS ON THE  
ABILITY OF STUDENTS WITH DISRUPTIVE BEHAVIOR DISORDERS  
ADMITTED TO A RESIDENTIAL TREATMENT CENTER TO DEMONSTRATE  
LANGUAGE-BASED PRO-SOCIAL BEHAVIOR REPLACEMENT SKILLS

Tanya D. Wright

University of Nebraska

Advisor: Dr. John W. Hill

Group 1 students ( $n = 18$ ) with Disruptive Behavior Disorders and co-occurring reading delimitations with measured reading comprehension scores greater than one standard deviation below the mean, pretest beginning compared to posttest ending 12-week behavioral treatment Core Behavior Occurrence measures were all observed in the direction of lower posttest mean scores and student core behavior improvement with eight of the 11 Core Behavior Occurrence measures (73%) found to be significantly different. Group 2 students ( $n = 22$ ) with Disruptive Behavior Disorders and co-occurring reading delimitations with measured reading comprehension scores equal to but not more than one standard deviation below the mean, pretest beginning compared to posttest ending behavioral treatment Core Behavior Occurrence measures were all observed in the direction of lower posttest mean scores and student core behavior improvement with two of the 11 Core Behavior Occurrence measures (18%) found to be significantly different. Group 3 students ( $n = 14$ ), with Disruptive Behavior Disorders and no co-occurring reading delimitations with measured reading comprehension scores equal to or greater than one standard deviation above the mean, pretest beginning

compared to posttest ending behavioral treatment Core Behavior Occurrence measures were all observed in the direction of lower posttest mean scores and student core behavior improvement with four of the 11 Core Behavior Occurrence measures (36%) found to be significantly different. The pattern of overall among group behavior improvement was also found for the study's Program Specific measures. Finally, regardless of reading level differences posttest-posttest ANOVA between group equipoise observed at the end of the treatment period across all measures indicated that students' language-based pro-social behavior replacement intervention program progress was independent of reading level and any reading required to learn and demonstrate program driven skills thought to reduce undesirable behaviors.

## Acknowledgements

First and foremost I would like to dedicate this dissertation to Father Edward J. Flanagan, who in 1917 began his mission of helping children. I feel blessed to be a part of Father Flanagan's dream and am grateful each day to take part in the mission of Boys Town.

I would like to thank the many people who provided encouragement, lent their ear, and sacrificed time in order to help see me through this process. My children, Merrick and Seth, who are and will always be the best and most important people in my life. My father, Raymond Wright, has been an inspiration and endless advocate for me, motivating me with unconditional love, and words of encouragement even when I lacked confidence in myself. My mother, Marie Wright, who read thousands of books to me, showed me how important a mother's love is, and let me soar in my own direction. I would like to thank my sister, Christine, for being my best friend and a true constant in my life. Many other friends and colleagues far too many to name, were also instrumental in providing encouraging words of support through this process.

I want to thank Dr. John W. Hill, my dissertation supervisor, whose expertise in special education, behavior, and research, as well as his patience, support, and yes, humor, helped me believe in myself and my ability to strengthen my knowledge and stretch beyond my imagination. I also want to thank my dissertation committee members Dr. Kay Keiser, Dr. Neal Grandgenett, and Dr. Larry Dlugosh. Other significant University of Nebraska at Omaha faculty and staff members who have given me guidance and encouragement along the way include Dr. Kay Keiser, Dr. Laura Schulte, and Mrs. Barbara Mraz.

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To all of these people and the many others who have helped me with this journey, I would like to express my sincere gratitude.

***“...The work will continue, you see, whether I am there or not, because it is God’s work, not mine.” (Father Flanagan)***

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## CHAPTER ONE

### Introduction

Most restrictive residential treatment programs are recommended as a last resort treatment option for youth with disruptive behavior disorders (Boyd, Eibinder, Rauktis, & Portwood, 2007; Connell et al., 2001; Daly et al., 1998). As such, residential treatment options are meant for the percentage of youth with disruptive behavior disorders who are at extreme risk for hurting themselves or others (Budde et al., 2004). Often thought of as a last chance to get it right in terms of mental health and educational treatment for youth, restrictive residential treatment programs are meant to serve the fewest number of youth with aggressive, violent, or self-destructive disruptive behavior disorders (Connell et al., 2001; Daly et al., 1998; Foltz, 2004). However, the demand for placements in residential treatment centers is on the rise (Burns, 1991; Daly et al., 1998). For example, between 1975 and 1986 admissions to residential treatment centers (RTCs) rose by 72% for 10 to 17 year old youths admitted to treatment (Burns, 1991). Nationally, the number of beds occupied by youths in RTCs rose from 15,129 to 24,547, which resulted in 8.3 million days of treatment and schooling over this 15-year period (Frank & Dewa, 1992). Frank and Dewa (1992) also noted a decrease in access to hospital care for disadvantaged youth, primarily those lacking insurance coverage. Even though the need for services for economically disadvantaged youth with psychiatric disorders is thought to be burgeoning, only 27% actually receive the psychiatric care they require (Dekker & Koot, 2003). Gagnon and Leone (2006) reported that approximately 80,000 students with disruptive behavior disorders are being educated each year in residential schools and these placements according to the United States Department of Education (2002) are classified

as the most restrictive educational environments for students with these disorders. In a national study of residential schools in six states, over a seven-year period, 43.3% of students had been arrested at least once and 34.4% were adjudicated before placement in a treatment program (Greenbaum et al., 1996). These students bring to their residential placement years of abuse and neglect at home (Osseroff, Osseroff, Westlin, & Gessner, 1999), failure at school (Trout, Nordness, Pierce, & Epstein, 2003; Nelson, Benner, Lane, & Smith, 2004), and mismanagement in the juvenile justice system (Carran, Nemerofsky, Rock, & Kerins, 1996).

**Abuse and neglect at home.** It has been speculated that over 70% of students diagnosed as either conduct disorder or oppositional defiant disorder have experienced either physical or emotional parental abuse before the age of five. Children who are victims of maltreatment become a high risk for being offenders and ending up in the juvenile justice and residential treatment systems. In addition the offenses they commit are at an increased risk for being violent (Brezina, 1998; Smith, Thornberry, & Ireland, 1995; Widom 1989). Children who are abused and neglected carry substantial issues into their adult lives including spousal abuse (Mihalic & Elliot, 1997) and drug and alcohol abuse (Ireland & Widom, 1994; Smith et al., 1995). Research has shown that there are particular demographics which make children more susceptible to abuse and neglect such as children from low-income single parent or stepparent families, members of ethnic minority groups, and children living in disorganized and chaotic families.

**Failure at school.** Because aggressive and violent behaviors are not tolerated in public school classrooms (Bower, 1995) it has been estimated that as many as 43% to 56% of students with emotional and behavioral disorders drop out or are pushed out of

school, a rate that is almost twice that of all students with disabilities (Marder, 1992). Academically, students with aggressive and violent behaviors score several years below grade level in reading and math (Reid, Gonzalez, Nordness, Trout, & Epstein, 2004; Trout et al., 2003). There is also evidence to suggest that unlike other disabilities, students with disruptive behavior disorder tend to lag farther academically with an ever-widening achievement gap (Nelson et al., 2004). These students perform significantly below norms on standardized achievement tests and lower in math than in reading (Reid et al., 2004). The prevalence of academic difficulties is uncertain. It is suggested that between 33% and 83% of children with behavioral disorders also have academic difficulties (Reid et al., 2004). Academic research has primarily focused on three areas; (a) comparison of academic achievement of behaviorally disordered students and non disabled peers and those with learning disabilities and mental retardation, (b) investigation into prevalence rates and academic underachievement, and (c) studies of problem behaviors related to academic achievement (Nelson et al., 2004). Academic achievement in relation to students with disruptive behavior disorders has been well researched in the public school arena. More than 80% score below their mean group in the area of academic achievement. This is due to the behavior interfering with their academic learning or the opposite view of learning deficits leading to emotional and behavioral problems in the school setting. Lower Academic achievement is found across content areas but most specifically reading, math, written language, and spelling (Nelson et al., 2004).

**Placement in the juvenile justice system.** It is estimated that as many as 70% of youths in the juvenile justice system have special emotional and learning disabilities and

many of these students have both (Casey & Keiltz, 1990; Murphy, 1986). This is five times the national average of the students served in the public school systems that have emotional or learning disabilities. There is a strong link between illiteracy and poor academic skills and likely involvement in the juvenile justice system (National Center on Education, Disability, and Juvenile Justice, 2002; Trout et al., 2003). Nearly 2.2 million youths are arrested in the United States each year and on any day there are approximately 100,000 youths in juvenile justice facilities (Snyder & Sickmund, 2006). Most of these youths have a variety of medical, emotional, and learning needs that will not be addressed once a youth is adjudicated and incarcerated (Cocozza, 1997; Katsiyannis & Murry, 2000). Because of the magnitude of the problem the juvenile justice system has been labeled as a default system for students who cannot read or write well. Despite the known learning difficulties of incarcerated youth they are seldom provided adequate assessment or treatment for reading and learning disabilities (Coffey & Gemignani, 1994; Rutherford, Quinn, Leone, Garfinkel, & Nelson, 2002). For the fortunate few the courts intervene and require placement in residential treatment programs designed to promote pro-social behavior replacement skills and to provide differentiated learning experiences (Daly et al., 1998). Youths placed in residential treatment programs must be afforded a full range of pro-social behavioral interventions and supportive classroom accommodations if they are not to return to lifetimes of personally destructive behavior (Pfeiffer & Strzelecki, 1990).

## **Purpose of the Study**

The purpose of this study was to evaluate the effect of varying levels of reading delimitations on the ability of students with disruptive behavior disorders admitted to a residential treatment center to demonstrate language-based pro-social behavior replacement skills.

## **Research Questions**

The following research questions were used to analyze youth behaviors following ninety days of pro-social skills training dependent on their varying levels of reading ability upon admission to an intensive residential treatment center.

### **Overarching Pretest-Posttest Core Behavior Occurrences Research Question**

**#1.** Did students with disruptive behavior disorders and co-occurring reading delimitations with measured reading comprehension scores greater than one standard deviation below the mean lose, maintain, or improve their beginning pretest second week compared to ending posttest 11th-week Treatment Progress Checklist for Core Behavior Occurrence measured for (a) arguing, (b) complaining, (c) crying, (d) defiance, (e) interrupting often, (f) irritable mood, (g) not participating in program, (h) off-task behavior, (i) pouting, (j) swearing and/or obscenities, and (k) talking excessively?

**Sub-Question 1a.** Was there a significant difference between students' beginning pretest second week compared to ending posttest 11th-week Treatment Progress Checklist for Core Behavior Occurrence measured for (a) arguing?

**Sub-Question 1b.** Was there a significant difference between students' beginning pretest second week compared to ending posttest 11th-week Treatment Progress Checklist for Core Behavior Occurrence measured for (b) complaining?



**Sub-Question 1c.** Was there a significant difference between students' beginning pretest second week compared to ending posttest 11th-week Treatment Progress Checklist for Core Behavior Occurrence measured for (c) crying?

**Sub-Question 1d.** Was there a significant difference between students' beginning pretest second week compared to ending posttest 11th-week Treatment Progress Checklist for Core Behavior Occurrence measured for (d) defiance?

**Sub-Question 1e.** Was there a significant difference between students' beginning pretest second week compared to ending posttest 11th-week Treatment Progress Checklist for Core Behavior Occurrence measured for (e) interrupting often?

**Sub-Question 1f.** Was there a significant difference between students' beginning pretest second week compared to ending posttest 11th-week Treatment Progress Checklist for Core Behavior Occurrence measured for (f) irritable mood?

**Sub-Question 1g.** Was there a significant difference between students' beginning pretest second week compared to ending posttest 11th-week Treatment Progress Checklist for Core Behavior Occurrence measured for (g) not participating in program?

**Sub-Question 1h.** Was there a significant difference between students' beginning pretest second week compared to ending posttest 11th-week Treatment Progress Checklist for Core Behavior Occurrence measured for (h) off-task behavior?

**Sub-Question 1i.** Was there a significant difference between students' beginning pretest second week compared to ending posttest 11th-week Treatment Progress Checklist for Core Behavior Occurrence measured for (i) pouting?

**Sub-Question 1j.** Was there a significant difference between students' beginning pretest second week compared to ending posttest 11th-week Treatment Progress Checklist for Core Behavior Occurrence measured for (j) swearing and/or obscenities?

**Sub-Question 1k.** Was there a significant difference between students' beginning pretest second week compared to ending posttest 11th-week Treatment Progress Checklist for Core Behavior Occurrence measured for (k) talking excessively?

**Overarching Pretest-Posttest Core Behavior Occurrences Research Question #2.** Did students with disruptive behavior disorders and co-occurring reading delimitations with measured reading comprehension scores equal to but not more than one standard deviation below the mean lose, maintain, or improve their beginning pretest second week compared to ending posttest 11th-week Treatment Progress Checklist for Core Behavior Occurrence measured for (a) arguing, (b) complaining, (c) crying, (d) defiance, (e) interrupting often, (f) irritable mood, (g) not participating in program, (h) off-task behavior, (i) pouting, (j) swearing and/or obscenities, and (k) talking excessively?

**Sub-Question 2a.** Was there a significant difference between students' beginning pretest second week compared to ending posttest 11th-week Treatment Progress Checklist for Core Behavior Occurrence measured for (a) arguing?

**Sub-Question 2b.** Was there a significant difference between students' beginning pretest second week compared to ending posttest 11th-week Treatment Progress Checklist for Core Behavior Occurrence measured for (b) complaining?

**Sub-Question 2c.** Was there a significant difference between students' beginning pretest second week compared to ending posttest 11th-week Treatment Progress Checklist for Core Behavior Occurrence measured for (c) crying?

**Sub-Question 2d.** Was there a significant difference between students' beginning pretest second week compared to ending posttest 11th-week Treatment Progress Checklist for Core Behavior Occurrence measured for (d) defiance?

**Sub-Question 2e.** Was there a significant difference between students' beginning pretest second week compared to ending posttest 11th-week Treatment Progress Checklist for Core Behavior Occurrence measured for (e) interrupting often?

**Sub-Question 2f.** Was there a significant difference between students' beginning pretest second week compared to ending posttest 11th-week Treatment Progress Checklist for Core Behavior Occurrence measured for (f) irritable mood?

**Sub-Question 2g.** Was there a significant difference between students' beginning pretest second week compared to ending posttest 11th-week Treatment Progress Checklist for Core Behavior Occurrence measured for (g) not participating in program?

**Sub-Question 2h.** Was there a significant difference between students' beginning pretest second week compared to ending posttest 11th-week Treatment Progress Checklist for Core Behavior Occurrence measured for (h) off-task behavior?

**Sub-Question 2i.** Was there a significant difference between students' beginning pretest second week compared to ending posttest 11th-week Treatment Progress Checklist for Core Behavior Occurrence measured for (i) pouting?

**Sub-Question 2j.** Was there a significant difference between students' beginning pretest second week compared to ending posttest 11th-week Treatment Progress Checklist for Core Behavior Occurrence measured for (j) swearing and/or obscenities?

**Sub-Question 2k.** Was there a significant difference between students' beginning pretest second week compared to ending posttest 11th-week Treatment Progress Checklist for Core Behavior Occurrence measured for (k) talking excessively?

**Overarching Pretest-Posttest Core Behavior Occurrences Research Question**

**#3.** Did students with disruptive behavior disorders and no co-occurring reading delimitations with measured reading comprehension scores equal to or greater than one standard deviation above the mean lose, maintain, or improve their beginning pretest second week compared to ending posttest 11th-week Treatment Progress Checklist for Core Behavior Occurrence measured for (a) arguing, (b) complaining, (c) crying, (d) defiance, (e) interrupting often, (f) irritable mood, (g) not participating in program, (h) off-task behavior, (i) pouting, (j) swearing and/or obscenities, and (k) talking excessively?

**Sub-Question 3a.** Was there a significant difference between students' beginning pretest second week compared to ending posttest 11th-week Treatment Progress Checklist for Core Behavior Occurrence measured for (a) arguing?

**Sub-Question 3b.** Was there a significant difference between students' beginning pretest second week compared to ending posttest 11th-week Treatment Progress Checklist for Core Behavior Occurrence measured for (b) complaining?

**Sub-Question 3c.** Was there a significant difference between students' beginning pretest second week compared to ending posttest 11th-week Treatment Progress Checklist for Core Behavior Occurrence measured for (c) crying?

**Sub-Question 3d.** Was there a significant difference between students' beginning pretest second week compared to ending posttest 11th-week Treatment Progress Checklist for Core Behavior Occurrence measured for (d) defiance?

**Sub-Question 3e.** Was there a significant difference between students' beginning pretest second week compared to ending posttest 11th-week Treatment Progress Checklist for Core Behavior Occurrence measured for (e) interrupting often?

**Sub-Question 3f.** Was there a significant difference between students' beginning pretest second week compared to ending posttest 11th-week Treatment Progress Checklist for Core Behavior Occurrence measured for (f) irritable mood?

**Sub-Question 3g.** Was there a significant difference between students' beginning pretest second week compared to ending posttest 11th-week Treatment Progress Checklist for Core Behavior Occurrence measured for (g) not participating in program?

**Sub-Question 3h.** Was there a significant difference between students' beginning pretest second week compared to ending posttest 11th-week Treatment Progress Checklist for Core Behavior Occurrence measured for (h) off-task behavior?

**Sub-Question 3i.** Was there a significant difference between students' beginning pretest second week compared to ending posttest 11th-week Treatment Progress Checklist for Core Behavior Occurrence measured for (i) pouting?

**Sub-Question 3j.** Was there a significant difference between students' beginning pretest second week compared to ending posttest 11th-week Treatment Progress Checklist for Core Behavior Occurrence measured for (j) swearing and/or obscenities?

**Sub-Question 3k.** Was there a significant difference between students' beginning pretest second week compared to ending posttest 11th-week Treatment Progress Checklist for Core Behavior Occurrence measured for (k) talking excessively?

#### **Overarching Posttest-Posttest Core Behavior Occurrences Research**

**Question #4.** Did students with disruptive behavior disorders and co-occurring reading delimitations with measured reading comprehension scores greater than one standard deviation below the mean, students with disruptive behavior disorders and co-occurring reading delimitations with measured reading comprehension scores equal to or greater than one standard deviation below the mean, and students with disruptive behavior disorders and no co-occurring reading delimitations with measured reading comprehension scores equal to or greater than one standard deviation above the mean have congruent or different 11th-week posttest compared to 11th-week posttest Treatment Progress Checklist for Core Behavior Occurrence measured for (a) arguing, (b) complaining, (c) crying, (d) defiance, (e) interrupting often, (f) irritable mood, (g) not participating in program, (h) off-task behavior, (i) pouting, (j) swearing and/or obscenities, and (k) talking excessively?

**Sub-Question 4a.** Was there a significant difference between students with disruptive behavior disorders and co-occurring reading delimitations with measured reading comprehension scores greater than one standard deviation below the mean,

students with disruptive behavior disorders and co-occurring reading delimitations with measured reading comprehension scores equal to or greater than one standard deviation below the mean, and students with disruptive behavior disorders and no co-occurring reading delimitations with measured reading comprehension scores equal to or greater than one standard deviation above the means ending posttest 11th-week compared to ending posttest 11th-week Treatment Progress Checklist for Core Behavior Occurrence measured for (a) arguing, (b) complaining, (c) crying, (d) defiance, (e) interrupting often, (f) irritable mood, (g) not participating in program, (h) off-task behavior, (i) pouting, (j) swearing and/or obscenities, and (k) talking excessively?

**Overarching Pretest-Posttest Program Specific Item Research Question #5.**

Did students with disruptive behavior disorders and co-occurring reading delimitations with measured reading comprehension scores greater than one standard deviation below the mean lose, maintain, or improve their beginning pretest second week compared to ending posttest 11th-week Treatment Progress Checklist for Program Specific measures for: (a) outing restriction, (b) time out room, and (c) unit restriction?

**Sub-Question 5a.** Was there a significant difference between students' beginning pretest second week compared to ending posttest 11th-week Treatment Progress Checklist for Program Specific measures for (a) outing restriction?

**Sub-Question 5b.** Was there a significant difference between students' beginning pretest second week compared to ending posttest 11th-week Treatment Progress Checklist for Program Specific measures for (b) time out room?

**Sub-Question 5c.** Was there a significant difference between students' beginning pretest second week compared to ending posttest 11th-week Treatment Progress Checklist for Program Specific measures for (c) unit restriction?

**Overarching Pretest-Posttest Program Specific Item Question #6.** Did students with disruptive behavior disorders and co-occurring reading delimitations with measured reading comprehension scores equal to but not more than one standard deviation below the mean lose, maintain, or improve their beginning pretest second week compared to ending posttest 11th-week Treatment Progress Checklist for Program Specific measures for: (a) outing restriction, (b) time out room, and (c) unit restriction?

**Sub-Question 6a.** Was there a significant difference between students' beginning pretest second week compared to ending posttest 11th-week Treatment Progress Checklist for Program Specific measures for (a) outing restriction?

**Sub-Question 6b.** Was there a significant difference between students' beginning pretest second week compared to ending posttest 11th-week Treatment Progress Checklist for Program Specific measures for (b) time out room?

**Sub-Question 6c.** Was there a significant difference between students' beginning pretest second week compared to ending posttest 11th-week Treatment Progress Checklist for Program Specific measures for (c) unit restriction?

**Overarching Pretest-Posttest Program Specific Item Research Question #7.** Did students with disruptive behavior disorders and no co-occurring reading delimitations with measured reading comprehension scores equal to or greater than one standard deviation above the mean lose, maintain, or improve their beginning pretest second week



compared to ending posttest 11th-week Treatment Progress Checklist for Program Specific measures for: (a) outing restriction, (b) time out room, and (c) unit restriction?

**Sub-Question 7a.** Was there a significant difference between students' beginning pretest second week compared to ending posttest 11th-week Treatment Progress Checklist for Program Specific measures for (a) outing restriction?

**Sub-Question 7b.** Was there a significant difference between students' beginning pretest second week compared to ending posttest 11th-week Treatment Progress Checklist for Program Specific measures for (b) time out room?

**Sub-Question 7c.** Was there a significant difference between students' beginning pretest second week compared to ending posttest 11th-week Treatment Progress Checklist for Program Specific measures for (c) unit restriction?

**Overarching Posttest-Posttest Program Specific Item Research Question #8.**

Did students with disruptive behavior disorders and co-occurring reading delimitations with measured reading comprehension scores greater than one standard deviation below the mean, students with disruptive behavior disorders and co-occurring reading delimitations with measured reading comprehension scores equal to or greater than one standard deviation below the mean, and students with disruptive behavior disorders and no co-occurring reading delimitations with measured reading comprehension scores equal to or greater than one standard deviation above the mean have congruent or different 11th-week posttest compared to 11th-week posttest Treatment Progress Checklist for Program Specific measures for: (a) outing restriction, (b) time out room, and (c) unit restriction?

**Sub-Question 8a.** Was there a significant difference between students with disruptive behavior disorders and co-occurring reading delimitations with measured reading comprehension scores greater than one standard deviation below the mean, students with disruptive behavior disorders and co-occurring reading delimitations with measured reading comprehension scores equal to or greater than one standard deviation below the mean, and students with disruptive behavior disorders and no co-occurring reading delimitations with measured reading comprehension scores equal to or greater than one standard deviation above the means ending posttest 11th-week compared to ending posttest 11th-week Treatment Progress Checklist for Program Specific measures for: (a) outing restriction, (b) pass/visit, (b) time out room, and (c) unit restriction?

### **Assumptions**

The study has several strong features. All youth in this research study were admitted to the same intensive residential treatment center in a one-year period. The intensive residential treatment center uses the Wide Range Achievement Test IV (WRAT IV) addition to test all subjects in the area of reading. The WRAT IV test is given within the first week of admission to all youth. All youth in this study have been diagnosed with a disruptive behavior disorder as determined by the DSM IV manual. The same psychiatrists responsible for determining the intake diagnosis of all residential treatment center youth evaluated the study subjects. Training for all adults responsible for direct care of the study youth was provided through a pre-service training of the pro-social skills model also referred to as the Psycho-Educational Model before adults work directly with the youth. Following the training, there is a shadowing period of an experienced staff to ensure the proper use of the pro-social skills model. Annual refresher training is

mandatory of all staff working directly with youth. Behavioral data are kept for each twenty-four hour period and entered into a database for accurate behavioral reporting. Utilization Review (UR) meetings for each youth are held every 30 days to determine behavioral progress. Utilization Review (UR) meetings require the attendance of the youth, his/her parent/guardian, therapist, psychiatrist, program coordinator, and if necessary a caseworker or probation officer.

### **Delimitations of the Study**

This study was delimited to youth admitted to the Boys Town Intensive Residential Treatment Center during the years of 2008-2009. Youth range from ages 8-18. All youth are required to take the WRAT IV test of reading upon admission. Some youth refused to take the test due to behavioral issues and other tests were reported but not in the correct format for this study. Study findings were limited to youth who were admitted during 2008-2009, were diagnosed with disruptive behavior disorder, and whose WRAT IV tests were reported correctly for purposes of this study.

### **Limitations of the Study**

This exploratory study was confined to youth ages 8-18 years ( $N = 54$ ) participating in a pro-social skills program at the Boys Town Intensive Residential Treatment Program for at least ninety days. Study participants in the first arm ( $n = 18$ ) displayed disruptive behavioral disorders and measured reading comprehension scores greater than one standard deviation below the mean. Study participants in the second arm ( $n = 22$ ) displayed behavioral disorders and measured reading comprehension scores equal to but not more than one standard deviation below the mean. Study participants in the third arm ( $n = 14$ ) displayed behavioral disorders and measured reading

comprehension scores equal to or greater than one standard deviation above the mean. The limited sample size and the specialized Psycho-Educational Model may limit the utility and ability to generalize the study results and finding.

### **Definition of Terms**

**Attention Deficit Hyperactivity Disorder (ADHD).** Attention Deficit Hyperactivity Disorder is defined as a neurobehavioral developmental disorder primarily characterized by the co-existence of attention problems and hyperactivity. While symptoms may appear to be innocent and merely annoying to some observers, if left untreated, the persistent and pervasive effects of ADHD symptoms can insidiously and severely interfere with one's ability to get the most out of education, fulfill one's potential in the workplace, establish and maintain interpersonal relationships, and maintain a generally positive sense of self (American Psychiatric Association, 2000).

**Accepting apologies from others.** Accepting apologies from others is defined as looking at the person who is apologizing, listen to what they are saying, remain calm, refrain from making a sarcastic statement, and thank the person for their apology.

**Accepting compliments.** Accepting compliments is defined as looking at the person who is complimenting you, using a pleasant voice tone, thanking the person for the compliment, and avoid looking away, mumbling, or denying the compliment.

**Accepting consequences.** Accepting consequences is defined as looking at the person, saying “okay”, not arguing, and if given an instruction or suggestions on how to correct the situation, youth will follow through.

**Accepting no answer.** Accepting a no answer is defined as looking at the person, saying okay, calmly asking for a reason if you really do not understand, if you disagree bring it up at a later time.

**Accepting responsibility.** Accepting responsibility is defined as looking at the person, using a calm, clear voice tone, telling the person what you did, waiting for a response and then saying okay.

**Arguing.** Arguing is defined as when a youth inappropriately attempts to persuade an adult by providing reasons for or against clear-cut issues; attempts to debate an instruction, feedback, or consequence.

**Appreciation.** Appreciation is defined as looking at the person, using a pleasant and sincere voice tone, saying thank you, and specifically describing what the person did that is appreciated, and offer future help.

**Apology.** Apology is defined as looking at the person, using a sincere voice tone, begin with saying I am sorry for, not make excuses or give rationalizations, sincerely saying that you will try to not repeat that behavior in the future, offer compensation or pay restitution, and thank the person for listening.

**Asking for help.** Asking for help is defined as looking at the person, asking the person if he or she has time to help you, clearly describe the problem or what kind of help you need, and thank the person for the help.

**Assessment.** Assessment is defined as a process of collecting data for the purposes of making decisions about individuals and groups. In this study, the Wide Range Achievement Test IV (WRAT IV) was utilized as an assessment to determine youth proficiency in reading comprehension.

**Complaining.** Complaining is defined when a youth inappropriately expresses feelings of dissatisfaction or resentment; may include the use of an inappropriate voice tone.

**Conduct Disorder.** Conduct disorder is defined as repetitive and persistent pattern of behavior in which the basic rights of others or major age-appropriate societal norms or rules are violated, as manifested by the presence of three or more of the following criteria in the past twelve months, with at least one criterion present in the past six months: aggression to people or animals, destruction of property, deceitfulness or theft, and serious violations of rules (American Psychiatric Association, 1994).

**Crying.** Crying is defined when a youth cries while in a non-cooperative situation or cries due to other emotionally upsetting circumstances (family session, phone call, visit).

**Defiance.** Defiance is defined when a youth is resistant to following directions or to cooperating with clear expectations. This includes any behavior necessitating the use of any or all of teaching self-control curriculum beyond the preventative stage.

**Disagreeing appropriately.** Disagreeing appropriately is defined as looking at the person, using a pleasant voice tone, make an empathy or concern statement, be specific when telling why you disagree, give a rationale, and say thank you.

**Disruptive Behavior Disorder.** Disruptive behavior disorder is defined as a disorder that does not meet the criteria for conduct disorder or oppositional defiant disorder and include clinical presentations that do not meet full criteria for either conduct or oppositional defiant disorder but in which there is a significant clinical impairment (American Psychiatric Association, 2000).

**Expressing feelings.** Expressing feelings is defined as remaining calm, looking at the person who is talking, describe feelings you are currently having, avoid statements of blame and profanity, take responsibility for your feelings, and thank the person for listening.

**Following instructions.** Following instructions is defined as looking at the person, saying okay, doing the task immediately, and checking back if necessary.

**Getting teacher's attention.** Getting the teacher's attention is defined as looking at the person, raising the hand calmly, waiting to be acknowledged by the teacher, and asking a question or making a request in a quiet voice tone.

**Giving compliments.** Giving compliments is defined as looking at the person you are complimenting, speaking clearly, praise the person's activity or project specifically.

**Interrupting appropriately.** Interrupting appropriately is defined as standing where you can be seen, waiting for the person to acknowledge you or signal you to come back later, when you speak say "Excuse me for interrupting", be specific, thank the person for their time.

**Interrupting often.** Interrupting often is defined when a youth excessively breaks into a conversation without permission, several times a day or more.

**Irritable mood.** Irritable mood is defined when a youth acts abnormally sensitive in interactions with people (e.g., uses a harsh voice tone, gives short answers, scowl on face).

**Making a request.** Making a request is defined as looking at the person, using a pleasant voice tone, making the request in the form of a question, if it is granted, remember to say thank you.

**Mood Disorder.** Mood Disorder is defined as mood symptoms that do not meet the criteria for any specific Mood Disorder and in which it is difficult to choose between Depressive Disorder Not Otherwise Specified and Bipolar Disorder Not Otherwise Specified (DSM IV-TR 2000).

**Not participating in program.** Not participating in program is defined when a youth refuses to join in program activities or youth's location is unknown for a period of time.

**Off-task behavior.** Off task behavior is defined when a youth has difficulty maintaining attention during tasks or play; repeatedly runs around in an area while non-cooperative; is easily distracted by other stimuli; displays a short attention span; has difficulty organizing task activities.

**Oppositional Defiant Disorder.** Oppositional defiant disorder is defined as a recurrent pattern of negativistic, defiant, disobedient, and hostile behavior toward authority figures that persists for at least six months, and is characterized by at least four of the following behaviors: losing temper, arguing with adults, actively defying or refusing to comply with the requests and rules of adults, deliberately doing things that will annoy others, blaming others, being touchy or easily annoyed, angry and resentful, or being spiteful and vindictive (DSM IV-TR 2000).



**Post Traumatic Stress Disorder.** Post traumatic stress disorder is defined as the development of characteristic symptoms following exposure to an extreme traumatic stressor involving direct personal experience of an event that involves actual or threatened death or serious injury, or other threat to one's physical integrity; or witnessing an event that involves death, injury, or a threat to the physical integrity of another person; or learning about unexpected or violent death, serious harm, or threat to death or injury experienced by a family member or close associate (DSM IV-TR 2000).

**Pouting.** Pouting is defined when a youth displays behaviors such as crossed arms, protruding lips, or prolonged downcast eyes when given an instruction or a decision with which they do not agree.

**Pro-Social Skills.** Pro-social skills are defined as replacement behaviors for those problem behaviors that most seriously interfere with a youth's ability to successfully function in society (Criste, Sterba, & Davis, 2000; Hill & Coufal, 2005).

**Psycho Educational Model.** PEM is defined as an eclectic model that assesses the child's needs across biological, psychological, and social dimensions. The model creates an environment where medical, psychological, and social treatment can be integrated (Daly et al., 1998).

**Reading comprehension.** Reading comprehension is defined as understanding a text that is read, or the process of constructing meaning from a text.

**Reactive Attachment Disorder.** Reactive attachment disorder is defined as a marked disturbance and developmentally inappropriate social relatedness in most contexts that begins before age 5 years and is associated with grossly pathological care (DSM IV-TR 2000).

**Residential Treatment Center.** Out of home facility for mental health treatment that is more treatment oriented than group homes, but less restrictive than inpatient psychiatric units (Connell et al., 2001).

**Seeking positive attention.** Seeking positive attention is defined as waiting until the adult has time, look at the person, wait for acknowledgement, and appropriately ask for time to talk, discuss positive events or activities.

**Self-control.** Self-control is defined as various cognitive-behavioral strategies for maintaining self-control that they can use in times of anger or stress, or prior to episodes of maladaptive coping (Criste et al., 2000).

**Showing appreciation.** Showing appreciation is defined as looking at the person, using a pleasant voice tone, saying thank you and describing specifically what is appreciated, give a reason it is beneficial, offer future help on your part.

**Showing respect.** Showing respect is defined as obeying a request to stop a negative behavior, refraining from teasing, threatening, or making fun of others, allowing others to have privacy, obtaining permission before using another person's property, not damaging or vandalizing public property, refraining from conning or persuading others to break rules, avoid acting obnoxiously in public, and dressing appropriately in public.

**Spontaneous problem solving.** Spontaneous problem solving is defined as stopping the ongoing behavior, define the immediate situation, think of alternative actions or strategies, think of possible consequences for each option, and choose the best strategy for avoiding trouble.

**Structured problem solving.** Structured problem solving is defined as (SODAS). Define the problem situation, generate two or more options, look at each options potential advantages and disadvantages, and decide the best solution.

**Swearing and/or obscenities.** Swearing and/or obscenities is defined as when a youth uses a swear word, or an inappropriate slang/vulgar word.

**Talking excessively.** Talking excessively is defined when a youth often talks fast and constantly without allowing interruptions.

**Wide Range Achievement Test 4 (WRAT 4).** The WRAT 4 is defined as a norm-referenced test that measures basic academic skills of word reading, sentence comprehension, spelling, and math computation.

### **Significance of the Study**

This study has the potential to contribute to research, practice, and policy. It is of significant interest to educators who seek to help students with disruptive behavior disorders and co-occurring reading delimitations improve their disruptive behaviors by using language and reading based pro-social behavior replacement skills.

**Contribution to research.** There is an ongoing need to constantly add to the existing corpus of real world based research that supports the behavior improvement of youth placed in a residential treatment center with disruptive behavior disorders and co-occurring reading delimitations leading to successful transition to less restrictive school placements. The results of this study, may inform the theoretical and practical literature of the effectiveness of language and reading based pro-social behavior replacement intervention.

**Contribution to practice.** Based on the outcomes of this study residential treatment centers may decide to consider a youth's reading skills at admission to differentiate the reading level required for a student to become aware of and demonstrate the required pro-social behavior replacement skills.

**Contribution to policy.** Local level policy was impacted by this study. If results show youth with large reading delimitations do not improve behaviorally compared to more literate peers in the same program, a discussion should be generated to consider academic profiles before placement of students with reading delimitations in language and reading based pro-social behavior replacement intervention programs.

### **Organization of the Study**

The literature review to this study is presented in Chapter 2. This chapter reviews professional literature on residential treatment centers, disruptive behavioral disorders, abuse and neglect, school failure, reading delimitations, and the juvenile justice system. Chapter 3 describes the research design, methodology, and procedures used to gather and analyze the data of the study. Chapter 4 reports the research results, findings, including data analysis, tables, and descriptive statistics. Chapter 5 provides conclusions and a discussion of the research findings.

## **CHAPTER TWO**

### **Review of Literature**

Youth referred for most restrictive residential treatment programs (Boyd et al., 2007; Daly et al., 1998; Connell et al., 2001) often have complex and co-morbid mental health issues including Attention Deficit Hyperactivity Disorder (Budde et al., 2004; Foltz, 2004; Piepho & Hill, 1992), Oppositional Defiant Disorder and Conduct Disorder (Barkley, 1998; Conner & Doerfler, 2008).

#### **Attention Deficit Hyperactivity Disorder**

Attention Deficit Hyperactivity Disorder (ADHD) is the most prevalent of the disruptive behavior disorders and affects adolescents at a rate of 2% to 4% of the general population (The American Psychiatric Association, 1994; Barkley, 1998; Goldman, Genel, Bezman, & Slanetz, 1998; National Institute of Mental Health [NIMH], 2003; Nolan, Gadow, & Sprafkin, 2001). ADHD is considered a biological and/or neurological disorder more common in boys than girls where symptoms can emerge prior to age seven although age of onset can be questioned in making a formal diagnosis (Castellanos, Lee, & Sharp, 2002; Piepho & Hill, 1992; Willoughby, Curran, Costello, & Angold, 2000). Health care providers can be divided in their diagnostic criteria and making a proper diagnosis can be complex (Block, 1996; Jumper, Douyon, Falcone, & Franco, 2008; Piepho & Hill, 1992). A diagnosis of Attention Deficit Hyperactivity Disorder puts students at a higher risk for not only behavioral problems over time but increases probability of learning and social difficulties throughout their school careers (Kollins, Barkley, & DuPaul, 2001). The impact on schools and teachers is apparent when you consider that in every classroom there will be approximately one child with ADHD

(Dupaul & Eckert, 1998). Teachers want to reach and educate every child and students with ADHD can be unavailable for learning either the academic or social skills being taught in class, thus affecting their achievement overall in school (American Psychiatric Association, 2000; Barry, Lyman, Klinger, 2002; Piepho & Hill, 1992). Left untreated students will become at greater risk for substance abuse, impulsive behaviors that can lead to legal troubles, and continued declining achievement in school (Jumper et al., 2008).

**ADHD in minority populations.** Different ethnic groups can perceive social behaviors differently. If a behavior is considered inappropriate parental response changes if they think the behavior is being triggered by a medical or mental condition (Kendall & Hattan, 2002). Hispanic and African-American parents themselves do not identify their children with ADHD as readily as Caucasian parents do but perceive ADHD symptoms as learning struggles (Pastor & Reuben, 2005). When the Medicaid prescription drug reimbursement claims were studied for youth ages 5 through 14 years, findings indicated that African-American youth with Medicaid insurance were treated at a rate of 39% with psychopharmacological agents compared to 52% of their Caucasian peers (Zito, Safer, dos Reis, Magder, & Riddle, 1997). A more recent study in North Carolina found that compared to Caucasian youth, African-American children were 70% less likely to report use of ADHD medication, and Hispanic youth were 30% less likely to be using ADHD medication than their Caucasian counterparts (Rowland, Umbach, Stallone, Naftel, Bohlig, & Sandler, 2002). In sharp contrast to parental perceptions and medication research, in a 2001 study teachers identified 39.5% of their African-American students compared to 14.2% of Caucasians (Nolan et al., 2001).

**Research about the effectiveness of behavior and medication intervention for ADHD.** In the past two decades the use of psychotropic medications has increased in the treatment of youth with disruptive behavior disorders (Kelleher, Hohmann, & Larson, 1998; Safer, Zito, & dosReis, 2003). Much of this attention has been geared towards stimulants. The use of psychotropic medications must not be taken lightly and should be approached cautiously. The most common treatment of ADHD is the use of medication, most often a psycho stimulant and more specifically methylphenidate and is known by the brand names of Ritalin, Dexedrine, and Cylert (Gushee & Hall, 2002; Hill & Van Haren, 2005; Piepho & Hill, 1992; U.S. Drug Enforcement, 1999). Improved attention, ability to follow directions, increase in task completion are benefits of the psycho stimulant medications, in addition decrease in distractibility and hyperactivity can also be present. Students have demonstrated a high positive response rate to stimulant medication in all age groups (Cantwell, 1996; Piepho & Hill 1992). Other medications have been used to treat ADHD but have not been as popular as the psycho stimulants; including antipsychotics, antidepressants, anticonvulsants, antihypertensive, and selective norepinephrine reuptake inhibitors (Piepho & Hill, 1992; Ryan, Reid, Epstein, Ellis, & Evans, 2005).

**Multimodal treatment planning for youth with ADHD.** Treating the whole child should be the goal when any disorder is present. In 1996 Block found that only about half the children on prescriptions for ADHD were receiving any further guidance on modifying their life and behaviors. While medication alone cannot cure ADHD the use of medication may result in a child becoming more available to learning new ways to behave. This learning is strengthened when the program offers clear behavior

replacement interventions and family therapy (Dupaul & Eckert 1997; Piepho & Hill, 1992; Lo & Cartledge, 2006). This type of combined therapy has ranked higher in outcomes than with medication alone. The largest and most comprehensive study of ADHD was done in 1999 by the Multimodal Treatment Study of Children with ADHD [MTA], the combined therapy approach was successful in 12 out of 14 outcomes while medication alone only saw success in 4 out of 19 outcomes. It is clear that for children with ADHD one size does not fit all when finding a treatment approach that will work.

### **Co-Morbid Disorders**

Even if treated as many as 75% of youth with an early onset identification of ADHD go on to have a diagnosis of Oppositional Defiant or Conduct Disorder (Barkley, Fischer, Edelbrock, & Smallish, 1990; Barkley, 1998; Connor & Doerfler, 2008; Evans, Langberg, Raggi, Allen, & Buvinger, 2005).

### **Oppositional Defiant Disorder**

Oppositional Defiant Disorder (ODD) is one of the most common clinical disorders (Biederman, Ball, Monuteaux, Kaiser, & Faraone, 2008; Steiner & Remsing, 2007). Although not as common as ADHD, prevalence rates of ODD range between 1% and 16% of the child and adolescent population (Loeber, Burke, Lahey, Winters, & Zera, 2000). Complex mixes of factors contribute to a diagnosis of ODD. A pattern of hostile, negative, and defiant behavior that creates disturbances puts a youth at risk for a diagnosis of ODD. Many, if not most of these behaviors are directed at someone specific, most often an authority figure or adult (Steiner & Remsing, 2007). Environment as well as neuro-chemical abnormalities contribute to the eventual development and diagnosis of ODD. Lower socio economic households and neighborhoods, family history



of ADHD, significant family dysfunction, unresponsive parents, substance abuse, and/or mood disorders increase potential risk (Burke, Loeber, & Birmaher, 2002; Greene et al., 2002). Parents of youth with ODD seek help from mental health professionals due to the behaviors significantly impeding adult-child or child-child interactions (Cohen, Kasen, Brook, & Struening, 1991). Oppositional Defiant Disorder is more common in boys than girls but in recent years research suggests that this may disappear by adolescence (Biederman, Ball, Monuteaux, Kaiser, & Faraone, 2008). Oppositional Defiant Disorder is a persistent diagnosis with upwards of 57% of youth continuing to meet the criteria four years after initial diagnosis (August, Realmuto, Joyce, & Hektner, 1999). For youth who are diagnosed, an earlier age of onset paints a bleak picture. Earlier diagnosis of ODD promises a poorer prognosis of higher potential in developing Conduct Disorder or Antisocial Personality Disorder later in life (Connor, 2002; Loeber et al., 2000). Early intervention is the key.

**Research about the effectiveness of behavior and medication intervention for ODD.** Family and behavioral interventions are often used for treatment of ODD (MTA Cooperative Group, 1999). Medications on the other hand are not specifically used for treatment of ODD. Stimulants that are not approved for ODD are commonly prescribed for ADHD and since the likelihood of a co-morbid condition of ODD is approximately 40% (Goldman et al., 1998) stimulants are often used when the two exist together. Preschool programs such as Head Start begin early to prevent future delinquency (Connor 2002; Greenspan, 1992). Other early interventions include home visitations or in home family workers that coach high-risk families on preventative interventions (Eckenrode et al., 2000). Parent training that is evidence based for these types of externalizing

behaviors can be effective (Burke et al., 2002; Eyberg, Nelson, & Boggs, 2008). Parent management strategies including psycho-educational programs targeting social skills, conflict resolution, and anger management skills are effective in treating ODD in school age youth (Burke et al., 2002). For treatment of adolescent ODD cognitive interventions, continued social skills training, academic learning, and vocational/job training are helpful (Burke et al., 2002; Connor, 2002). Finally, school based interventions are important. School interventions can range from anti-bullying programs (Olweus, 1994) to peer group, influenced programs.

### **Conduct Disorder**

Conduct disorder (CD) is the most severe disruptive behavior disorder in which basic rights of others are violated and where there is a persistent behavior pattern where age-appropriate and social norms are disregarded (American Psychiatric Association, 2000). Youth who are diagnosed with CD can be destructive to themselves, their families, communities, and schools. Aggressive behaviors of a youth who is diagnosed with conduct disorder can include but are not limited to physical harm or threats to others, bullying, fighting, and use of weapons (American Psychiatric Association, 2000). Aggressive behaviors also observed include fire setting, theft, lying, and stealing. Prevalence rates for CD range from about 2% to 10% of the population of children and adolescents (Lahey, Miller, Gordon, & Riley, 1999). Boys are two to three times more likely to be diagnosed than girls (Zoccolillo, 1993). Once diagnosed with CD, youth have a higher likelihood of being referred for community based services (Landrum, Singh, Nemil, Ellis, & Best 1995; Quinn & Epstein, 1998) and residential treatment or inpatient care. The long-term research outcomes for youth diagnosed with CD is not

positive. Upwards of 80% will meet standards for a psychiatric disorder in adulthood (Kazdin, 2003). Anti-social personality disorder is at the top of this list with 23% to 55% of youth with CD go on to develop anti-social personality disorder (Robins & McEvoy, 1990). High rates of substance abuse also follow CD youth into adulthood, with a comorbid rate of at least 30% (Hinshaw & Lee, 2003).

### **Research about the effectiveness of behavior, medication, and family**

**intervention for CD.** Conduct disorder in youth is often resistant to treatment. Early onset of CD can set a youth on a difficult life course (Moffitt, 1990). Children with early ODD can then turn into CD. Oppositional Defiant Disorder and Conduct Disorder have similar environmental relationships in regard to economic hardship, discipline practices, and poor parental or adult supervision (Loeber, Lahey, & Thomas, 1991). There are no medication treatments specifically designed for CD approved by the Federal Drug Administration. However, psychotropic drugs have proven effective in the control of some of the symptoms of CD including aggression, a symptom of CD is often treated with medication (Connor, Ozbayrak, Harrison, & Melloni, 1998). Impulse control, explosive rage filled behaviors, and hostile behaviors seem to respond to medication (Campbell, Gonzalez, & Silva, 1992). Treatment of Conduct Disorder cannot be based on medication only. Psychosocial programs that focus on covert and manipulative behaviors and have the family as the central focus can be effective (McMahon & Kolter, 2006). Cognitive behavior skills programs have also shown promise in engaging youth to take control of their own behaviors at school and at home (Singh et al., 2007).

## **Behavior Replacement Intervention Paradigms**

Intervention procedures (interventions) used to accomplish the goal of improving student behavior and learning outcomes (Bauer, Shea, & Keppler, 1986) commonly incorporate positive reinforcement (Jones, Mandler-Provin, Latkowski, & McMahon, 1987), shaping, (Bauer et al., 1986), and fading (LaNunziata, Hunt, & Cooper, 1984), combine token economies with hierarchies of self-management (Algozzine, 1990) behavior expectations or levels (Hill & Coufal, 2005; Hill, Esser, & Weidner, 1997), and often include social skills, goal setting, and behavior replacement curricula (Weidner & Esser, 1996). Behavioral expectations and rewards change as students demonstrate progress. Students who progress through intervention programs have more privileges while receiving fewer external rewards in increasingly less restrictive educational settings (Smith & Farrell, 1993). Pro-social skills are taught using pre teaching and role-playing methods when youth are not acting out and are most available to instruction (Hill & Coufal, 2005). Social skills programs and token economies are among the most widely used and least restrictive interventions.

**Social skills programs.** Social skills instruction is widely accepted as an intervention to teach replacement behaviors to youth with disruptive behavior disorders (Dowd, Tobias, Connolly, Criste, & Nelson, 1993; Ison, 2001). Teaching to specific behaviors can contribute to positive social interactions for students (Miller, Lane, & Wehby, 2005). Teachers, administrators, counselors, and psychologists typically provide social skills instruction in schools. Social skills instruction is designed to change the social behavior of students. Skills taught can range from basic to complex and are often segmented into steps broken down by task analysis (Goldstein & McGinnis, 1997). A

basic skill might be following an instruction by looking at the person speaking, doing the task asked, and then checking back to see if another task is required (Criste et al., 2000). Complex social skills are taught usually only when basic social skills have been mastered. For example, accepting a compliment is considered a more complex skill that requires more abstract thinking than simply following instructions. The steps for accepting compliments are: looking at the person who is speaking, using a pleasant voice tone, and as a last step thanking the individual who gave the compliment without looking away or mumbling (Criste et al., 2000). Social skills instruction is directly taught by using discussion, modeling, role-playing, and positive feedback. When social skills instruction is used with students who have disruptive behavior disorders, typically it results in a display of more socially appropriate behaviors (Carter & Lunsford, 2005). Social skills instruction can reduce levels of inappropriate behaviors (Lewis, Sugai, & Colvin, 1998). Social skills programs promote the use of replacement and socially acceptable behavior through problem solving, friendship building, and self-reflection (Dowd et al., 1993; Luiselli, McCarty, Coniglio, Zorilla-Rameriz, & Putnam, 2005). The Boys Town Psychoeducational Model utilizes the teaching method of teaching the skill, having youth repeat the skill steps, model the skills and then practice with role plays the new skills and provide feedback to the youth who is acquiring the skill (Criste et al., 2000). Academic performance and behavior issues significantly reduce when using a social skills instruction program (Hill & Coufal, 2005; Luiselli et al., 2005). In addition, when students with disruptive behavior disorders participate in social skills programs chances for positive effects in employment, relationships, and law involvement are improved (Carter & Lunsford, 2005).

**Token economies.** Token economies represent a well-documented procedure to improve classroom behaviors (Kazdin, 1977; McLaughlin & Williams, 1998). Token economy systems are pervasive in schools used in many special education and self-contained classrooms, and also in general education classrooms (Alberto & Troutman, 2003). In a classroom, token economies typically involve the use of rules for earning tokens which represent value that a student may later use to purchase tangibles such as a batting glove or a model car, edibles such as a candy bar or potato chips, or privileges such as extra computer time or working on a favorite assignment. Classroom token economies can be utilized across grade levels and used with students of varying levels of academic and social behaviors (Kazdin, 1977). The token economy system has been widely used, researched, and validated as a behavior intervention model in schools (McLaughlin & Williams, 1998; Swain & McLaughlin, 1998).

### **Impact of Disruptive Behavior Disorders on Reading**

Students who are assaultive and aggressive also have severe risks of serious reading difficulties. Estimates for a combination of aggressive behavior and reading difficulties run as high as 61% (Frick et al., 1991). It is broadly thought that students with Disruptive Behavior Disorders score several years below grade level in reading and math (Trout et al., 2003). In schools students with disruptive behavior disorders and reading delimitations are often excluded from classroom reading instruction (Giangreco, Baumgart, & Doyle, 1995). These students are quickly labeled reluctant readers. Individualized reading programs, computer assisted instruction or tutoring can all be places where these students receive the bulk of their reading instruction. Reduced expectations and student isolation from other students and the teacher reduce the

motivation required to acquire and improve reading skills (Lyon, 1995). Reading delimitations lead to both academic and emotional frustration. This is of great concern when combined with students who have co-morbid disruptive behavior disorders.

### **Final Thought**

There are a number of factors that indicate a positive prognosis following residential treatment for youth with disruptive behavior disorders. These include: non-psychotic diagnosis, absence of antisocial features, healthy family functioning, early intervention, adequate length of stay, and involvement in aftercare (Pfeiffer & Strzelecki, 1990). Effective behavior interventions programs can reduce the frequency of undesired and/or anti social behaviors and promote positive social and learning outcomes (Ansari, Gouthro, Ahmad, & Steele, 1996).

## CHAPTER THREE

### Methodology

#### Participants

**Participants.** Individuals participating in this study completed ninety days of treatment during their admission at the Boys Town Residential Treatment Center and also completed the Wide Range Achievement Test IV (WRAT IV) to determine reading skill level.

**Number of participants.** The maximum accrual for this study was ( $N = 54$ ) including a naturally formed group of students identified with behavioral disorders and measured reading comprehension scores greater than one standard deviation below the mean ( $n = 18$ ) and a naturally formed group of students identified with behavioral disorders and measured reading comprehension scores equal to but not more than one standard deviation below the mean ( $n = 22$ ) and also a naturally formed group of students identified with behavioral disorders and measured reading comprehension scores equal to or greater than one standard deviation above the mean ( $n = 14$ ).

**Gender of the participants.** Study participants were male 41% ( $n = 22$ ), and 59% female ( $n = 32$ ). These numbers are similar to the program averages for other intensive residential treatment center programs where 57% of participants are male and 43% female.

**Racial and ethnic origin of participants.** Of the total number of participants ( $N = 54$ ), 59% were Caucasian ( $n = 32$ ), 26% were African-American ( $n = 14$ ), 9% were Multi-Ethnic ( $n = 5$ ), 4% Native American ( $n = 2$ ), and 2% Hispanic ( $n = 1$ ). These numbers are also congruent with the program population and national statistics which



indicate that overall racial and ethnic origin statistics for students diagnosed with disruptive behavior disorders is 61% Caucasian, 27.3% African American, and 8.9% Hispanic (IDEA 2001).

**Inclusion criteria of participants.** The students selected as part of this study had been in the Boys Town Residential Treatment Program for a minimum of ninety days and had been administered the Wide Range Achievement Test IV and would have been admitted between 2008 and 2009.

**Method of participant identification.** The participant group was naturally selected from students admitted between 2008 and 2009 and met the aforementioned inclusionary criteria. The study analyzed data from the Boys Town Residential Treatment Center which included raw scores on the sentence comprehension test of the WRAT IV for youth between ages eight to eighteen, TPC (Treatment Progress Checklist) data collected daily from behavioral charting during a youth's stay.

### **Description of Procedures**

**Purpose of the study.** The purpose of this study was to evaluate the effect of varying levels of reading delimitations on the ability of students with disruptive behavior disorders admitted to a residential treatment center to demonstrate language-based pro-social behavior replacement skills.

**Research design.** The pretest-posttest three-group comparative efficacy study design is displayed in the following notation:

|         |                |                |                |                |
|---------|----------------|----------------|----------------|----------------|
| Group 1 | X <sub>1</sub> | O <sub>1</sub> | Y <sub>1</sub> | O <sub>2</sub> |
| Group 2 | X <sub>1</sub> | O <sub>1</sub> | Y <sub>2</sub> | O <sub>2</sub> |
| Group 3 | X <sub>1</sub> | O <sub>1</sub> | Y <sub>3</sub> | O <sub>2</sub> |

**Group 1 = study participants #1.** Naturally formed group of students identified with behavioral disorders and measured reading comprehension scores greater than one standard deviation below the mean disruptive behavior disorders and reading comprehension. ( $n = 18$ ).

**Group 2 = study participants #2.** Naturally formed group of students identified with behavioral disorders and measured reading comprehension scores equal to but not more than one standard deviation below the mean ( $n = 22$ ).

**Group 3 = study participants #3.** Naturally formed group of students identified with behavioral disorders and measured reading comprehension scores equal to or greater than one standard deviation above the mean ( $n = 14$ ).

**X<sub>1</sub> = study constant.** All study youths were diagnosed with disruptive behavior disorders and evaluated at the beginning of their treatment program and again after 90-days of participation in the pro-social skills training program and appropriate classroom reading accommodations.

**Y<sub>1</sub> = study independent variable, reading ability, condition #1.** Students with disruptive behavior disorders and measured reading comprehension scores greater than one standard deviation below the mean.

**Y<sub>2</sub> = study independent variable, reading ability, condition #2.** Students with disruptive behavior disorders and measured reading comprehension scores equal to but not more than one standard deviation below the mean.

**Y<sub>3</sub> = study independent variable, reading ability, condition #3.** Students with disruptive behavior disorders and measured reading comprehension scores equal to or greater than one standard deviation above the mean.

**O<sub>1</sub> = study pretest dependent measures.** (1) Pretest week two Boys Town Residential Treatment Center, Treatment Progress Checklist for: Core Behavior Occurrence (a) arguing, (b) complaining, (c) crying, (d) defiance, (e) interrupting often, (f) irritable mood, (g) not participating in program, (h) off-task behavior, (i) pouting, (j) swearing and/or obscenities, and (k) talking excessively. (2) Pretest week two Boys Town Residential Treatment Center, Treatment Progress Checklist for: Core Behavior Program Specific measures, (a) outing restriction, (b) time out room, and (c) unit restriction.

**O<sub>2</sub> = study posttest dependent measures.** (1) Posttest week eleven Boys Town Residential Treatment Center, Treatment Progress Checklist for: Core Behavior Occurrence (a) arguing, (b) complaining, (c) crying, (d) defiance, (e) interrupting often, (f) irritable mood, (g) not participating in program, (h) off-task behavior, (i) pouting, (j) swearing and/or obscenities, and (k) talking excessively. (2) Posttest week eleven Boys Town Residential Treatment Center, Treatment Progress Checklist for: Core Behavior Program Specific measures (a) outing restriction, (b) time out room, and (c) unit restriction.

### **Implementation of the Independent Variables**

The independent variables are the groups of students dependent on their reading comprehension deficit on the sentence comprehension subtest of the WRAT 4. Students will be ages eight to eighteen and were admitted to the Boys Town Residential Treatment Center between 2008-2009. The purpose of this pretest-posttest study was to evaluate the effect of varying levels of reading delimitations on the ability of students with disruptive behavior disorders to replace aggressive and violent behaviors with acceptable alternative

behaviors following ninety days of pro-social skills training in an intensive residential treatment program.

### **Dependent Measures**

Dependent variables included Boys Town Residential Treatment Center compiled daily behavioral data computed in the Treatment Progress Checklist by recording the frequencies of behaviors divided in to qualifying behaviors.

### **Research Questions, Sub-Questions, and Data Analysis**

The following pretest-posttest research question was used to analyze Boys Town Residential Treatment Center, Treatment Progress Checklist for Core Behavior Occurrences measured at pretest at the end of the second week after program admission and at posttest at the end of the 11th-week after program admission for students with disruptive behavior disorders and co-occurring reading delimitations with measured reading comprehension scores greater than one standard deviation below the mean.

#### **Overarching Pretest-Posttest Core Behavior Occurrences Research Question**

**#1.** Did students with disruptive behavior disorders and co-occurring reading delimitations with measured reading comprehension scores greater than one standard deviation below the mean lose, maintain, or improve their beginning pretest second week compared to ending posttest 11th-week Treatment Progress Checklist for Core Behavior Occurrence measured for (a) arguing, (b) complaining, (c) crying, (d) defiance, (e) interrupting often, (f) irritable mood, (g) not participating in program, (h) off-task behavior, (i) pouting, (j) swearing and/or obscenities, and (k) talking excessively?

**Sub-Question 1a.** Was there a significant difference between students' beginning pretest second week compared to ending posttest 11th-week Treatment Progress Checklist for Core Behavior Occurrence measured for (a) arguing?

**Sub-Question 1b.** Was there a significant difference between students' beginning pretest second week compared to ending posttest 11th-week Treatment Progress Checklist for Core Behavior Occurrence measured for (b) complaining?

**Sub-Question 1c.** Was there a significant difference between students' beginning pretest second week compared to ending posttest 11th-week Treatment Progress Checklist for Core Behavior Occurrence measured for (c) crying?

**Sub-Question 1d.** Was there a significant difference between students' beginning pretest second week compared to ending posttest 11th-week Treatment Progress Checklist for Core Behavior Occurrence measured for (d) defiance?

**Sub-Question 1e.** Was there a significant difference between students' beginning pretest second week compared to ending posttest 11th-week Treatment Progress Checklist for Core Behavior Occurrence measured for (e) interrupting often?

**Sub-Question 1f.** Was there a significant difference between students' beginning pretest second week compared to ending posttest 11th-week Treatment Progress Checklist for Core Behavior Occurrence measured for (f) irritable mood?

**Sub-Question 1g.** Was there a significant difference between students' beginning pretest second week compared to ending posttest 11th-week Treatment Progress Checklist for Core Behavior Occurrence measured for (g) not participating in program?

**Sub-Question 1h.** Was there a significant difference between students' beginning pretest second week compared to ending posttest 11th-week Treatment Progress Checklist for Core Behavior Occurrence measured for (h) off-task behavior?

**Sub-Question 1i.** Was there a significant difference between students' beginning pretest second week compared to ending posttest 11th-week Treatment Progress Checklist for Core Behavior Occurrence measured for (i) pouting?

**Sub-Question 1j.** Was there a significant difference between students' beginning pretest second week compared to ending posttest 11th-week Treatment Progress Checklist for Core Behavior Occurrence measured for (j) swearing and/or obscenities?

**Sub-Question 1k.** Was there a significant difference between students' beginning pretest second week compared to ending posttest 11th-week Treatment Progress Checklist for Core Behavior Occurrence measured for (k) talking excessively?

**Analysis.** Research Sub-Questions #1a, 1b, 1c, 1d, 1e, 1f, 1g, 1h, 1i, 1j, and 1k were analyzed using dependent *t* tests to examine the significance of the difference between students' beginning pretest second week compared to ending posttest 11th-week Treatment Progress Checklist for Core Behavior Occurrence. Because multiple statistical tests will be conducted, a one-tailed .01 alpha level was employed to help control for Type 1 errors. Means and standard deviations are displayed on tables.

The following pretest-posttest research question was used to analyze Boys Town Residential Treatment Center, Treatment Progress Checklist for Core Behavior Occurrences measured at pretest at the end of the second week after program admission and at posttest at the end of the 11th-week after program admission for students with

disruptive behavior disorders and co-occurring reading delimitations with measured reading comprehension scores equal to but not more than one standard deviation below the mean.

**Overarching Pretest-Posttest Core Behavior Occurrences Research Question**

#2. Did students with disruptive behavior disorders and co-occurring reading delimitations with measured reading comprehension scores equal to but not more than one standard deviation below the mean lose, maintain, or improve their beginning pretest second week compared to ending posttest 11th-week Treatment Progress Checklist for Core Behavior Occurrence measured for (a) arguing, (b) complaining, (c) crying, (d) defiance, (e) interrupting often, (f) irritable mood, (g) not participating in program, (h) off-task behavior, (i) pouting, (j) swearing and/or obscenities, and (k) talking excessively?

**Sub-Question 2a.** Was there a significant difference between students' beginning pretest second week compared to ending posttest 11th-week Treatment Progress Checklist for Core Behavior Occurrence measured for (a) arguing?

**Sub-Question 2b.** Was there a significant difference between students' beginning pretest second week compared to ending posttest 11th-week Treatment Progress Checklist for Core Behavior Occurrence measured for (b) complaining?

**Sub-Question 2c.** Was there a significant difference between students' beginning pretest second week compared to ending posttest 11th-week Treatment Progress Checklist for Core Behavior Occurrence measured for (c) crying?

**Sub-Question 2d.** Was there a significant difference between students' beginning pretest second week compared to ending posttest 11th-week Treatment Progress Checklist for Core Behavior Occurrence measured for (d) defiance?

**Sub-Question 2e.** Was there a significant difference between students' beginning pretest second week compared to ending posttest 11th-week Treatment Progress Checklist for Core Behavior Occurrence measured for (e) interrupting often?

**Sub-Question 2f.** Was there a significant difference between students' beginning pretest second week compared to ending posttest 11th-week Treatment Progress Checklist for Core Behavior Occurrence measured for (f) irritable mood?

**Sub-Question 2g.** Was there a significant difference between students' beginning pretest second week compared to ending posttest 11th-week Treatment Progress Checklist for Core Behavior Occurrence measured for (g) not participating in program?

**Sub-Question 2h.** Was there a significant difference between students' beginning pretest second week compared to ending posttest 11th-week Treatment Progress Checklist for Core Behavior Occurrence measured for (h) off-task behavior?

**Sub-Question 2i.** Was there a significant difference between students' beginning pretest second week compared to ending posttest 11th-week Treatment Progress Checklist for Core Behavior Occurrence measured for (i) pouting?

**Sub-Question 2j.** Was there a significant difference between students' beginning pretest second week compared to ending posttest 11th-week Treatment Progress Checklist for Core Behavior Occurrence measured for (j) swearing and/or obscenities?



**Sub-Question 2k.** Was there a significant difference between students' beginning pretest second week compared to ending posttest 11th-week Treatment Progress Checklist for Core Behavior Occurrence measured for (k) talking excessively?

**Analysis.** Research Sub-Questions #2a, 2b, 2c, 2d, 2e, 2f, 2g, 2h, 2i, 2j, and 2k were analyzed using dependent *t* tests to examine the significance of the difference between students' beginning pretest second week compared to ending posttest 11th-week Treatment Progress Checklist for Core Behavior Occurrence. Because multiple statistical tests were conducted, a one-tailed .01 alpha level was employed to help control for Type 1 errors. Means and standard deviations are displayed on tables.

The following pretest-posttest research question was used to analyze Boys Town Residential Treatment Center, Treatment Progress Checklist for Core Behavior Occurrences measured at pretest at the end of the second week after program admission and at posttest at the end of the 11th-week after program admission for students with disruptive behavior disorders and no co-occurring reading delimitations with measured reading comprehension scores equal to or greater than one standard deviation above the mean.

**Overarching Pretest-Posttest Core Behavior Occurrences Research Question**

**#3.** Did students with disruptive behavior disorders and no co-occurring reading delimitations with measured reading comprehension scores equal to or greater than one standard deviation above the mean lose, maintain, or improve their beginning pretest second week compared to ending posttest 11th-week Treatment Progress Checklist for Core Behavior Occurrence measured for (a) arguing, (b) complaining, (c) crying, (d)

defiance, (e) interrupting often, (f) irritable mood, (g) not participating in program, (h) off-task behavior, (i) pouting, (j) swearing and/or obscenities, and (k) talking?

**Sub-Question 3a.** Was there a significant difference between students' beginning pretest second week compared to ending posttest 11th-week Treatment Progress Checklist for Core Behavior Occurrence measured for (a) arguing?

**Sub-Question 3b.** Was there a significant difference between students' beginning pretest second week compared to ending posttest 11th-week Treatment Progress Checklist for Core Behavior Occurrence measured for (b) complaining?

**Sub-Question 3c.** Was there a significant difference between students' beginning pretest second week compared to ending posttest 11th-week Treatment Progress Checklist for Core Behavior Occurrence measured for (c) crying?

**Sub-Question 3d.** Was there a significant difference between students' beginning pretest second week compared to ending posttest 11th-week Treatment Progress Checklist for Core Behavior Occurrence measured for (d) defiance?

**Sub-Question 3e.** Was there a significant difference between students' beginning pretest second week compared to ending posttest 11th-week Treatment Progress Checklist for Core Behavior Occurrence measured for (e) interrupting often?

**Sub-Question 3f.** Was there a significant difference between students' beginning pretest second week compared to ending posttest 11th-week Treatment Progress Checklist for Core Behavior Occurrence measured for (f) irritable mood?

**Sub-Question 3g.** Was there a significant difference between students' beginning pretest second week compared to ending posttest 11th-week Treatment

Progress Checklist for Core Behavior Occurrence measured for (g) not participating in program?

**Sub-Question 3h.** Was there a significant difference between students' beginning pretest second week compared to ending posttest 11th-week Treatment Progress Checklist for Core Behavior Occurrence measured for (h) off-task behavior?

**Sub-Question 3i.** Was there a significant difference between students' beginning pretest second week compared to ending posttest 11th-week Treatment Progress Checklist for Core Behavior Occurrence measured for (i) pouting?

**Sub-Question 3j.** Was there a significant difference between students' beginning pretest second week compared to ending posttest 11th-week Treatment Progress Checklist for Core Behavior Occurrence measured for (j) swearing and/or obscenities?

**Sub-Question 3k.** Was there a significant difference between students' beginning pretest second week compared to ending posttest 11th-week Treatment Progress Checklist for Core Behavior Occurrence measured for (k) talking excessively?

**Analysis.** Research Sub-Questions #3a, 3b, 3c, 3d, 3e, 3f, 3g, 3h, 3i, 3j, and 3k were analyzed using dependent *t* tests to examine the significance of the difference between students' beginning pretest second week compared to ending posttest 11th-week Treatment Progress Checklist for Core Behavior Occurrence. Because multiple statistical tests were conducted, a one-tailed .01 alpha level was employed to help control for Type 1 errors. Means and standard deviations are displayed on tables.

The following posttest-posttest research question was used to analyze Boys Town Residential Treatment Center, Treatment Progress Checklist for Core Behavior

Occurrences measured at the 11th-week posttest after program admission for students with disruptive behavior disorders and co-occurring reading delimitations with measured reading comprehension scores greater than one standard deviation below the mean, students with disruptive behavior disorders and co-occurring reading delimitations with measured reading comprehension scores equal to or greater than one standard deviation below the mean, and students with disruptive behavior disorders and no co-occurring reading delimitations with measured reading comprehension scores equal to or greater than one standard deviation above the mean.

#### **Overarching Posttest-Posttest Core Behavior Occurrences Research**

**Question #4.** Did students with disruptive behavior disorders and co-occurring reading delimitations with measured reading comprehension scores greater than one standard deviation below the mean, students with disruptive behavior disorders and co-occurring reading delimitations with measured reading comprehension scores equal to or greater than one standard deviation below the mean, and students with disruptive behavior disorders and no co-occurring reading delimitations with measured reading comprehension scores equal to or greater than one standard deviation above the mean have congruent or different 11th-week posttest compared to 11th-week posttest Treatment Progress Checklist for Core Behavior Occurrence measured for (a) arguing, (b) complaining, (c) crying, (d) defiance, (e) interrupting often, (f) irritable mood, (g) not participating in program, (h) off-task behavior, (i) pouting, (j) swearing and/or obscenities, (k) talking excessively?

**Sub-Question 4a.** Was there a significant difference between students with disruptive behavior disorders and co-occurring reading delimitations with measured

reading comprehension scores greater than one standard deviation below the mean, students with disruptive behavior disorders and co-occurring reading delimitations with measured reading comprehension scores equal to or greater than one standard deviation below the mean, and students with disruptive behavior disorders and no co-occurring reading delimitations with measured reading comprehension scores equal to or greater than one standard deviation above the means ending posttest 11th-week compared to ending posttest 11th-week Treatment Progress Checklist for Core Behavior Occurrence measured for (a) arguing, (b) complaining, (c) crying, (d) defiance, (e) interrupting often, (f) irritable mood, (g) not participating in program, (h) off-task behavior, (i) pouting, (j) swearing and/or obscenities, and (k) talking excessively?

**Analysis.** Research Sub-Question #4a was analyzed utilized a single classification Analysis of Variance (ANOVA) to determine the main effect between students 11th-week posttest Treatment Progress Checklist for Core Behavior Occurrence scores. An *F* ratio was calculated and an alpha level of .05 was utilized to test the null hypothesis. Independent *t* tests were used for contrast analysis if a significant *F* ratio was observed.

The following pretest-posttest research question was used to analyze Boys Town Residential Treatment Center, Treatment Progress Checklist for Core Behavior Frequency measured at pretest at the end of the second week after program admission and at posttest at the end of the 11th-week after program admission for students with disruptive behavior disorders and co-occurring reading delimitations with measured reading comprehension scores greater than one standard deviation below the mean.

**Overarching Pretest-Posttest Program Specific Item Research Question #5.**

Did students with disruptive behavior disorders and co-occurring reading delimitations with measured reading comprehension scores greater than one standard deviation below the mean lose, maintain, or improve their beginning pretest second week compared to ending posttest Treatment Progress Checklist for Program Specific measures for: (a) outing restriction, (b) time out room, and (c) unit restriction.

**Sub-Question 5a.** Was there a significant difference between students' beginning pretest second week compared to ending posttest 11th-week Treatment Progress Checklist for Program Specific measures (a) outing restriction?

**Sub-Question 5b.** Was there a significant difference between students' beginning pretest second week compared to ending posttest 11th-week Treatment Progress Checklist for Program Specific measures for (b) time out room?

**Sub-Question 5c.** Was there a significant difference between students' beginning pretest second week compared to ending posttest 11th-week Treatment Progress Checklist for Program Specific measures for (c) unit restriction?

**Analysis.** Research Sub-Questions #5a, 5b, and 5c, were analyzed using dependent *t* tests to examine the significance of the difference between students' beginning pretest second week compared to ending posttest 11th-week Treatment Progress Checklist for Program Specific measures Because multiple statistical tests were conducted, a one-tailed .01 alpha level was employed to help control for Type 1 errors. Means and standard deviations are displayed on tables.

The following pretest-posttest research question was used to analyze Boys Town Residential Treatment Center, Treatment Progress Checklist for Program Specific

measures at pretest at the end of the second week after program admission and at posttest at the end of the 11th-week after program admission for students with disruptive behavior disorders and co-occurring reading delimitations with measured reading comprehension scores equal to but not more than one standard deviation below the mean.

**Overarching Pretest-Posttest Program Specific Item Question #6.** Did students with disruptive behavior disorders and co-occurring reading delimitations with measured reading comprehension scores equal to but not more than one standard deviation below the mean lose, maintain, or improve their beginning pretest second week compared to ending posttest 11th-week Treatment Progress Checklist for Program Specific measures measured for: (a) outing restriction, (b) time out room, and (c) unit restriction?

**Sub-Question 6a.** Was there a significant difference between students' beginning pretest second week compared to ending posttest 11th-week Treatment Progress Checklist for Program Specific measures for (a) outing restriction?

**Sub-Question 6b.** Was there a significant difference between students' beginning pretest second week compared to ending posttest 11th-week Treatment Progress Checklist for Program Specific measures for (b) time out room?

**Sub-Question 6c.** Was there a significant difference between students' beginning pretest second week compared to ending posttest 11th-week Treatment Progress Checklist for Program Specific measures for (c) unit restriction?

**Analysis.** Research Sub-Questions #6a, 6b, and 6c were analyzed using dependent  $t$  tests to examine the significance of the difference between students' beginning pretest second week compared to ending posttest 11th-week Treatment

Progress Checklist for Program Specific measures. Because multiple statistical tests were conducted, a one-tailed .01 alpha level was employed to help control for Type 1 errors.

Means and standard deviations are displayed on tables.

The following pretest-posttest research question was used to analyze Boys Town Residential Treatment Center, Treatment Progress Checklist for Program Specific measures at pretest at the end of the second week after program admission and at posttest at the end of the 11th-week after program admission for students with disruptive behavior disorders and no co-occurring reading delimitations with measured reading comprehension scores equal to or greater than one standard deviation above the mean.

**Overarching Pretest-Posttest Program Specific Item Research Question #7.**

Did students with disruptive behavior disorders and no co-occurring reading delimitations with measured reading comprehension scores equal to or greater than one standard deviation above the mean lose, maintain, or improve their beginning pretest second week compared to ending posttest 11th-week Treatment Progress Checklist for Program Specific measures measured for: (a) outing restriction, (b) time out room, and (c) unit restriction?

**Sub-Question 7a.** Was there a significant difference between students' beginning pretest second week compared to ending posttest 11th-week Treatment Progress Checklist for Program Specific measures for (a) outing restriction?

**Sub-Question 7b.** Was there a significant difference between students' beginning pretest second week compared to ending posttest 11th-week Treatment Progress Checklist for Program Specific measures for (b) time out room?



**Sub-Question 7c.** Was there a significant difference between students' beginning pretest second week compared to ending posttest 11th-week Treatment Progress Checklist for Program Specific measures for (c) unit restriction?

**Analysis.** Research Sub-Questions #7a, 7b, and 7c were analyzed using dependent *t* tests to examine the significance of the difference between students' beginning pretest second week compared to ending posttest 11th-week Treatment Progress Checklist for Program Specific measures. Because multiple statistical tests were conducted, a one-tailed .01 alpha level was employed to help control for Type 1 errors. Means and standard deviations are displayed on tables.

The following posttest-posttest research question was used to analyze Boys Town Residential Treatment Center, Treatment Progress Checklist for Program Specific measures at the 11th-week posttest after program admission for students with disruptive behavior disorders and co-occurring reading delimitations with measured reading comprehension scores greater than one standard deviation below the mean, students with disruptive behavior disorders and co-occurring reading delimitations with measured reading comprehension scores equal to or greater than one standard deviation below the mean, and students with disruptive behavior disorders and no co-occurring reading delimitations with measured reading comprehension scores equal to or greater than one standard deviation above the mean.

**Overarching Posttest-Posttest Program Specific Item Research Question #8.** Did students with disruptive behavior disorders and co-occurring reading delimitations with measured reading comprehension scores greater than one standard deviation below the mean, students with disruptive behavior disorders and co-occurring reading

delimitations with measured reading comprehension scores equal to or greater than one standard deviation below the mean, and students with disruptive behavior disorders and no co-occurring reading delimitations with measured reading comprehension scores equal to or greater than one standard deviation above the mean have congruent or different 11th-week posttest compared to 11th-week posttest Treatment Progress Checklist for Specific measures measured for: (a) outing restriction, (b) time out room, and (c) unit restriction?

**Sub-Question 8a.** Was there a significant difference between students with disruptive behavior disorders and co-occurring reading delimitations with measured reading comprehension scores greater than one standard deviation below the mean, students with disruptive behavior disorders and co-occurring reading delimitations with measured reading comprehension scores equal to or greater than one standard deviation below the mean, and students with disruptive behavior disorders and no co-occurring reading delimitations with measured reading comprehension scores equal to or greater than one standard deviation above the means ending posttest 11th-week compared to ending posttest 11th-week Treatment Progress Checklist for Program Specific measures for: (a) outing restriction, (b) time out room, and (c) unit restriction?

**Analysis.** Research Sub-Question #8a was analyzed using a single classification Analysis of Variance (ANOVA) to determine the main effect between students 11th-week posttest Treatment Progress Checklist for Program Specific measures scores. An  $F$  ratio was calculated and an alpha level of .05 was utilized to test the null hypothesis. Independent  $t$  tests were used for contrast analysis if a significant  $F$  ratio was observed.

**Data Collection Procedures**

All data used in this study was routinely collected. Permission from the appropriate Boys Town personnel and the Boys Town National Research Hospital IRB was obtained before data collection and analysis was conducted. Non-coded numbers was used to display individual student data.

**Performance sites.** The research was conducted at the Boys Town Intensive Residential Treatment Center. The study procedure did not interfere in any way with the normal educational or therapeutic practices and did not involve any coercion and discomfort of any kind. Data was stored on spreadsheets and computer drives for statistical analysis. Data and computer drives were secured. No individual identifiers were attached to the data.

**Confidentiality.** Non-coded numbers were used to display individual achievements. Individual data was de-identified by the appropriate Boys Town staff after all information is linked and the data sets are complete.

**Human Subjects Approval Category**

The exemption categories for this study are provided under 45FR46.101(b) categories 1 and 4. The research was conducted using routinely collected archival data. A letter of support from the University for this Study was obtained and sent to the University of Nebraska Medical Center/University of Nebraska at Omaha Joint Institutional Review Board for the Protection of Human Subjects for review.

## CHAPTER FOUR

### Results

#### Purpose of the Study

The purpose of this study was to evaluate the effect of varying levels of reading delimitations on the ability of students with disruptive behavior disorders admitted to a residential treatment center to demonstrate language-based pro-social behavior replacement skills.

The study's two dependent variables were Boys Town Residential Treatment Center, Treatment Progress Checklist for (1) Core Behavior Occurrence and (2) Core Behavior Program Specific Items. The first dependent variable measuring (1) Core Behavior Occurrence evaluated pretest week two and posttest week eleven frequencies for: (a) arguing, (b) complaining, (c) crying, (d) defiance, (e) interrupting often, (f) irritable mood, (g) not participating in program, (h) off-task behavior, (i) pouting, (j) swearing and/or obscenities, and (k) talking excessively. The second dependent variable measuring (2) Core Behavior Program Specific Items evaluated pretest week two and posttest week eleven frequencies for: (a) outing restriction, (b) time out room, and (c) unit restriction. All study achievement, engagement, and behavioral data related to each of the dependent variables were retrospective, archival, and routinely collected school information. Permission from the appropriate school research personnel was obtained before data were collected and analyzed.

Table 1 displays demographic information of individual students (Group 1;  $n = 18$ ) with Disruptive Behavior Disorders and co-occurring reading delimitations with measured reading comprehension scores greater than one standard deviation below the

mean. Table 2 displays demographic Information of Individual students (Group 2;  $n = 22$ ) with Disruptive Behavior Disorders and co-occurring reading delimitations with measured reading comprehension scores equal to but not more than one standard deviation below the mean. Demographic Information of Individual students (Group 3;  $n = 14$ ) with Disruptive Behavior Disorders and no co-occurring reading delimitations with measured reading comprehension scores equal to or greater than one standard deviation above the mean were displayed in Table 3.

### **Research Question #1**

Table 4 displays means and standard deviations of pretest-posttest Core Behavior Occurrence measures for students (Group 1;  $n = 18$ ) with Disruptive Behavior Disorders and co-occurring reading delimitations with measured reading comprehension scores greater than one standard deviation below the mean occurrence scores for: (a) arguing pretest ( $M = 5.67$ ,  $SD = 4.06$ ) and arguing posttest ( $M = 4.28$ ,  $SD = 3.21$ ), (b) complaining pretest ( $M = 5.11$ ,  $SD = 3.86$ ) and complaining posttest ( $M = 3.39$ ,  $SD = 2.14$ ), (c) crying pretest ( $M = 1.33$ ,  $SD = 1.46$ ) and crying posttest ( $M = 1.11$ ,  $SD = 1.57$ ), (d) defiance pretest ( $M = 7.56$ ,  $SD = 3.47$ ) and defiance posttest ( $M = 5.17$ ,  $SD = 3.20$ ), (e) interrupting often pretest ( $M = 1.78$ ,  $SD = 1.77$ ) and interrupting often posttest ( $M = 0.72$ ,  $SD = 1.23$ ), (f) irritable mood pretest ( $M = 3.22$ ,  $SD = 2.58$ ) and irritable mood posttest ( $M = 2.78$ ,  $SD = 2.98$ ), (g) not participating in program pretest ( $M = 2.17$ ,  $SD = 3.01$ ) and not participating in program posttest ( $M = 0.78$ ,  $SD = 1.44$ ), (h) off-task behavior pretest ( $M = 7.33$ ,  $SD = 4.77$ ) and off-task behavior posttest ( $M = 4.89$ ,  $SD = 2.83$ ), (i) pouting pretest ( $M = 2.83$ ,  $SD = 2.57$ ) and pouting posttest ( $M = 2.00$ ,  $SD = 2.38$ ), (j) swearing and/or obscenities pretest ( $M = 3.22$ ,  $SD = 3.04$ ) and swearing and/or

obscurities posttest ( $M = 1.56$ ,  $SD = 1.89$ ), and (k) talking excessively pretest ( $M = 3.83$ ,  $SD = 3.07$ ) and not talking excessively posttest ( $M = 2.22$ ,  $SD = 2.32$ ).

Pretest-posttest analysis of Core Behavior Occurrence measures for (a) arguing, (b) complaining, (c) crying, (d) defiance, (e) interrupting often, (f) irritable mood, (g) not participating in program, (h) off-task behavior, (i) pouting, (j) swearing and/or obscenities, and (k) talking excessively for students (Group 1;  $n = 18$ ) with Disruptive Behavior Disorders and co-occurring reading delimitations with measured reading comprehension scores greater than one standard deviation below the mean were displayed in Table 5. The first pretest-posttest hypothesis was tested using the dependent  $t$  test. As seen in table 5, null hypotheses were rejected, in the direction of lower posttest mean scores and student core behavior improvement, for arguing,  $t(17) = -1.78$ ,  $p = .05$  (one-tailed),  $d = -0.428$ , complaining,  $t(17) = -2.71$ ,  $p = .01$  (one-tailed),  $d = -0.780$ , defiance,  $t(17) = -2.52$ ,  $p = .01$  (one-tailed),  $d = -0.593$ , interrupting often,  $t(17) = -2.59$ ,  $p = .01$  (one-tailed),  $d = -0.630$ , not participating in program,  $t(17) = -2.94$ ,  $p < .01$  (one-tailed),  $d = -1.041$ , off-task behavior,  $t(17) = -2.28$ ,  $p < .05$  (one-tailed),  $d = -0.572$ , swearing and/or obscenities,  $t(17) = -2.13$ ,  $p < .05$  (one-tailed),  $d = -0.516$ , and talking excessively,  $t(17) = -2.08$ ,  $p < .05$  (one-tailed),  $d = -0.494$ . Also as seen in Table 5, null hypotheses were not rejected, although measured in the direction of lower posttest mean scores and student core behavior improvement, for crying,  $t(17) = -0.72$ ,  $p = .24$  (one-tailed),  $d = -0.167$ , irritable mood, ,  $t(17) = -0.77$ ,  $p = .23$  (one-tailed),  $d = -0.179$ , and pouting, ,  $t(17) = -1.30$ ,  $p = .11$  (one-tailed),  $d = -0.139$ .

## Research Question #2

Table 6 displays means and standard deviations of pretest-posttest Core Behavior Occurrence measures for students (Group 2;  $n = 22$ ) with Disruptive Behavior Disorders and co-occurring reading delimitations with measured reading comprehension scores equal to but not more than one standard deviation below the mean occurrence scores for: (a) arguing pretest ( $M = 3.68$ ,  $SD = 3.27$ ) and arguing posttest ( $M = 2.95$ ,  $SD = 3.15$ ), (b) complaining pretest ( $M = 3.82$ ,  $SD = 3.57$ ) and complaining posttest ( $M = 3.18$ ,  $SD = 2.84$ ), (c) crying pretest ( $M = 1.09$ ,  $SD = 1.34$ ) and crying posttest ( $M = 0.41$ ,  $SD = 0.59$ ), (d) defiance pretest ( $M = 5.55$ ,  $SD = 4.52$ ) and defiance posttest ( $M = 4.46$ ,  $SD = 3.20$ ), (e) interrupting often pretest ( $M = 0.86$ ,  $SD = 1.21$ ) and interrupting often posttest ( $M = 0.77$ ,  $SD = 1.15$ ), (f) irritable mood pretest ( $M = 2.36$ ,  $SD = 2.77$ ) and irritable mood posttest ( $M = 2.32$ ,  $SD = 1.98$ ), (g) not participating in program pretest ( $M = 1.55$ ,  $SD = 2.74$ ) and not participating in program posttest ( $M = 0.82$ ,  $SD = 1.62$ ), (h) off-task behavior pretest ( $M = 4.45$ ,  $SD = 4.04$ ) and off-task behavior posttest ( $M = 4.32$ ,  $SD = 3.34$ ), (i) pouting pretest ( $M = 2.32$ ,  $SD = 2.21$ ) and pouting posttest ( $M = 2.14$ ,  $SD = 1.96$ ), (j) swearing and/or obscenities pretest ( $M = 2.36$ ,  $SD = 2.96$ ) and swearing and/or obscenities posttest ( $M = 1.68$ ,  $SD = 2.29$ ), and (k) talking excessively pretest ( $M = 3.41$ ,  $SD = 3.03$ ) and not talking excessively posttest ( $M = 2.05$ ,  $SD = 2.10$ ).

Pretest-posttest analysis of Core Behavior Occurrence measures for (a) arguing, (b) complaining, (c) crying, (d) defiance, (e) interrupting often, (f) irritable mood, (g) not participating in program, (h) off-task behavior, (i) pouting, (j) swearing and/or obscenities, and (k) talking excessively for students (Group 2;  $n = 22$ ) with Disruptive Behavior Disorders and co-occurring reading delimitations with measured reading

comprehension scores equal to but not greater than one standard deviation below the mean were displayed in Table 7. The second pretest-posttest hypothesis was tested using the dependent  $t$  test. As seen in Table 7, null hypotheses were rejected, in the direction of lower posttest mean scores and student core behavior improvement, for crying,  $t(21) = -2.30, p < .05$  (one-tailed),  $d = -0.534$  and talking excessively,  $t(21) = -2.13, p < .05$  (one-tailed),  $d = -0.469$ . Also as seen in Table 7, null hypotheses were not rejected, although measured in the direction of lower posttest mean scores and student core behavior improvement, for, arguing,  $t(21) = -0.90, p = .19$  (one-tailed),  $d = -0.049$ , complaining,  $t(21) = -0.86, p = .20$  (one-tailed),  $d = -0.187$ , defiance,  $t(21) = -0.89, p = .19$  (one-tailed),  $d = -0.194$ , interrupting often,  $t(21) = -0.29, p = .39$  (one-tailed),  $d = -0.061$ , irritable mood, ,  $t(21) = -0.08, p = .46$  (one-tailed),  $d = -0.015$ , not participating in program,  $t(21) = -1.38, p = .09$  (one-tailed),  $d = -0.319$ , off-task behavior,  $t(21) = -0.15, p = .43$  (one-tailed),  $d = -0.032$ , pouting, ,  $t(21) = -0.36, p = .36$  (one-tailed),  $d = -0.075$ , swearing and/or obscenities,  $t(21) = -1.43, p = .08$  (one-tailed),  $d = -0.314$ .

### **Research Question #3**

Table 8 displays means and standard deviations of pretest-posttest Core Behavior Occurrence measures for students (Group 3;  $n = 14$ ) with Disruptive Behavior Disorders and no co-occurring reading delimitations with measured reading comprehension scores equal or greater than one standard deviation above the mean occurrence scores for: (a) arguing pretest ( $M = 5.43, SD = 3.45$ ) and arguing posttest ( $M = 3.93, SD = 3.38$ ), (b) complaining pretest ( $M = 5.21, SD = 2.28$ ) and complaining posttest ( $M = 4.29, SD = 2.99$ ), (c) crying pretest ( $M = 1.21, SD = 1.25$ ) and crying posttest ( $M = 0.93, SD = 1.20$ ), (d) defiance pretest ( $M = 7.79, SD = 3.16$ ) and defiance posttest ( $M = 6.50, SD = 4.20$ ),



(e) interrupting often pretest ( $M = 1.71, SD = 2.05$ ) and interrupting often posttest ( $M = 1.57, SD = 1.78$ ), (f) irritable mood pretest ( $M = 3.71, SD = 2.70$ ) and irritable mood posttest ( $M = 2.71, SD = 2.72$ ), (g) not participating in program pretest ( $M = 1.93, SD = 1.97$ ) and not participating in program posttest ( $M = 0.79, SD = 2.15$ ), (h) off-task behavior pretest ( $M = 6.86, SD = 3.41$ ) and off-task behavior posttest ( $M = 4.71, SD = 3.04$ ), (i) pouting pretest ( $M = 3.21, SD = 2.36$ ) and pouting posttest ( $M = 2.14, SD = 1.56$ ), (j) swearing and/or obscenities pretest ( $M = 3.36, SD = 2.70$ ) and swearing and/or obscenities posttest ( $M = 1.64, SD = 2.06$ ), and (k) talking excessively pretest ( $M = 3.21, SD = 3.40$ ) and not talking excessively posttest ( $M = 2.36, SD = 2.76$ ).

Pretest-posttest analysis of Core Behavior Occurrence measures for (a) arguing, (b) complaining, (c) crying, (d) defiance, (e) interrupting often, (f) irritable mood, (g) not participating in program, (h) off-task behavior, (i) pouting, (j) swearing and/or obscenities, and (k) talking excessively for students (Group 3;  $n = 14$ ) with Disruptive Behavior Disorders and no co-occurring reading delimitations with measured reading comprehension scores equal to or greater than one standard deviation above the mean were displayed in Table 9. The third pretest-posttest hypothesis was tested using the dependent  $t$  test. As seen in Table 9, null hypotheses were rejected, in the direction of lower posttest mean scores and student core behavior improvement, for arguing,  $t(13) = -1.75, p = .05$  (one-tailed),  $d = -0.468$ , off-task behavior,  $t(13) = -2.50, p = .01$  (one-tailed),  $d = -0.637$ , swearing and/or obscenities,  $t(13) = -2.83, p < .05$  (one-tailed),  $d = -0.779$ , and talking excessively,  $t(13) = -2.20, p < .05$  (one-tailed),  $d = -0.617$ . Also as seen in Table 9, null hypotheses were not rejected, although measured in the direction of lower posttest mean scores and student core behavior improvement, for, complaining,

$t(13) = -1.25, p = .12$  (one-tailed),  $d = -0.386$ , crying,  $t(13) = -1.17, p = .13$  (one-tailed),  $d = -0.305$ , defiance,  $t(13) = -1.47, p = .08$  (one-tailed),  $d = -0.407$ , interrupting often,  $t(13) = -0.26, p = .39$  (one-tailed),  $d = -0.069$ , irritable mood,  $t(13) = -1.17, p = .06$  (one-tailed),  $d = -0.454$ , not participating in program,  $t(13) = -1.46, p = .08$  (one-tailed),  $d = -0.553$ , and pouting,  $t(13) = -1.33, p = .10$  (one-tailed),  $d = -0.419$ .

#### **Research Question #4**

The fourth posttest-posttest hypothesis was tested using Analysis of Variance (ANOVA). Results of ANOVA for students with Disruptive Behavior Disorders and co-occurring reading delimitations and no co-occurring reading delimitations posttest compared to posttest treatment progress checklist for Core Behavior Occurrence measure for arguing were displayed in Table 10. As seen in Table 10, the null hypothesis was not rejected for the Core Behavior Occurrence measures for (a) arguing where,  $F(2, 51) = 0.90, p = .41$ . Because no significant main effect was found *post hoc*, contrast analyses for the Core Behavior Occurrence measures for (a) arguing were not conducted.

Results of ANOVA for students with Disruptive Behavior Disorders and co-occurring reading delimitations and no co-occurring reading delimitations posttest compared to posttest treatment progress checklist for Core Behavior Occurrence measure for complaining were displayed in Table 11. As seen in Table 11, the null hypothesis was not rejected for the Core Behavior Occurrence measures for (b) complaining where,  $F(2, 51) = 0.77, p = .47$ . Because no significant main effect was found *post hoc*, contrast analyses for the Core Behavior Occurrence measures for (b) complaining were not conducted.

Results of ANOVA for students with Disruptive Behavior Disorders and co-occurring reading delimitations and no co-occurring reading delimitations posttest compared to posttest treatment progress checklist for Core Behavior Occurrence measure for crying were displayed in Table 12. As seen in Table 12, the null hypothesis was not rejected for the Core Behavior Occurrence measures for (c) crying where,  $F(2, 51) = 1.99, p = .15$ . Because no significant main effect was found *post hoc*, contrast analyses for the Core Behavior Occurrence measures for (c) crying were not conducted.

Results of ANOVA for students with Disruptive Behavior Disorders and co-occurring reading delimitations and no co-occurring reading delimitations posttest compared to posttest treatment progress checklist for Core Behavior Occurrence measure for defiance were displayed in Table 13. As seen in Table 13, the null hypothesis was not rejected for the Core Behavior Occurrence measures for (d) defiance where,  $F(2, 51) = 1.24, p = .30$ . Because no significant main effect was found *post hoc*, contrast analyses for the Core Behavior Occurrence measures for (d) defiance were not conducted.

Results of ANOVA for students with Disruptive Behavior Disorders and co-occurring reading delimitations and no co-occurring reading delimitations posttest compared to posttest treatment progress checklist for Core Behavior Occurrence measure for interrupting often were displayed in Table 14. As seen in Table 14, the null hypothesis was not rejected for the Core Behavior Occurrence measures for (e) interrupting often where,  $F(2, 51) = 1.89, p = .16$ . Because no significant main effect was found *post hoc*, contrast analyses for the Core Behavior Occurrence measures for (e) interrupting often were not conducted.

Results of ANOVA for students with Disruptive Behavior Disorders and co-occurring reading delimitations and no co-occurring reading delimitations posttest compared to posttest treatment progress checklist for Core Behavior Occurrence measure for irritable mood were displayed in Table 15. As seen in Table 15, the null hypothesis was not rejected for the Core Behavior Occurrence measures for (f) irritable mood where,  $F(2, 51) = 0.19, p = .83$ . Because no significant main effect was found *post hoc*, contrast analyses for the Core Behavior Occurrence measures for (f) irritable mood were not conducted.

Results of ANOVA for students with Disruptive Behavior Disorders and co-occurring reading delimitations and no co-occurring reading delimitations posttest compared to posttest treatment progress checklist for Core Behavior Occurrence measure for not participating in program were displayed in Table 16. As seen in Table 16, the null hypothesis was not rejected for the Core Behavior Occurrence measures for (g) not participating in program where,  $F(2, 51) = 0.00, p = .99$ . Because no significant main effect was found *post hoc*, contrast analyses for the Core Behavior Occurrence measures for (g) not participating in program were not conducted.

Results of ANOVA for students with Disruptive Behavior Disorders and co-occurring reading delimitations and no co-occurring reading delimitations posttest compared to posttest treatment progress checklist for Core Behavior Occurrence measure for off-task behavior were displayed in Table 17. As seen in Table 17, the null hypothesis was not rejected for the Core Behavior Occurrence measures for (h) off-task behavior where,  $F(2, 51) = 0.18, p = .84$ . Because no significant main effect was found

*post hoc*, contrast analyses for the Core Behavior Occurrence measures for (h) off-task behavior were not conducted.

Results of ANOVA for students with Disruptive Behavior Disorders and co-occurring reading delimitations and no co-occurring reading delimitations posttest compared to posttest treatment progress checklist for Core Behavior Occurrence measure for pouting were displayed in Table 18. As seen in Table 18, the null hypothesis was not rejected for the Core Behavior Occurrence measures for (i) pouting where,  $F(2, 51) = 0.03, p = .97$ . Because no significant main effect was found *post hoc*, contrast analyses for the Core Behavior Occurrence measures for (i) pouting were not conducted.

Results of ANOVA for students with Disruptive Behavior Disorders and co-occurring reading delimitations and no co-occurring reading delimitations posttest compared to posttest treatment progress checklist for Core Behavior Occurrence measure for swearing and/or obscenities were displayed in Table 19. As seen in Table 19, the null hypothesis was not rejected for the Core Behavior Occurrence measures for (j) swearing and/or obscenities where,  $F(2, 51) = 0.02, p = .98$ . Because no significant main effect was found *post hoc*, contrast analyses for the Core Behavior Occurrence measures for (j) swearing and/or obscenities were not conducted.

Results of ANOVA for students with Disruptive Behavior Disorders and co-occurring reading delimitations and no co-occurring reading delimitations posttest compared to posttest treatment progress checklist for Core Behavior Occurrence measure for talking excessively were displayed in Table 20. As seen in Table 20, the null hypothesis was not rejected for the Core Behavior Occurrence measures for (k) talking excessively where,  $F(2, 51) = 0.08, p = .92$ . Because no significant main effect was

found *post hoc*, contrast analyses for the Core Behavior Occurrence measures for (k) talking excessively were not conducted.

### **Research Question #5**

Table 21 displays means and standard deviations of pretest-posttest Program Specific Items measures for students (Group 1;  $n = 18$ ) with Disruptive Behavior Disorders and co-occurring reading delimitations with measured reading comprehension scores greater than one standard deviation below the mean occurrence scores for: (a) outing restriction pretest ( $M = 8.11$ ,  $SD = 8.78$ ) and outing restriction posttest ( $M = 1.72$ ,  $SD = 4.48$ ), (b) time out room pretest ( $M = 2.78$ ,  $SD = 5.40$ ) and time out room posttest ( $M = 0.78$ ,  $SD = 1.47$ ), and (c) unit restriction pretest ( $M = 11.22$ ,  $SD = 9.49$ ) and unit restriction posttest ( $M = 1.89$ ,  $SD = 3.32$ ).

Pretest-posttest analysis of Program Specific Item measures for (a) outing restriction, (b) time out room, and (c) unit restriction for students (Group 1;  $n = 18$ ) with Disruptive Behavior Disorders and co-occurring reading delimitations with measured reading comprehension scores greater than one standard deviation below the mean were displayed in Table 22. The fifth pretest-posttest hypothesis was tested using the dependent  $t$  test. As seen in table 22, null hypotheses were rejected, in the direction of lower posttest mean scores and student core behavior improvement for all three measures, outing restriction,  $t(17) = -3.16$ ,  $p < .01$  (one-tailed),  $d = -0.809$ , time out room,  $t(17) = -2.04$ ,  $p < .05$  (one-tailed),  $d = -1.188$ , and unit restriction,  $t(17) = -3.76$ ,  $p = .001$  (one-tailed),  $d = -1.117$ .

### Research Question #6

Table 23 displays means and standard deviations of pretest-posttest Program Specific Items measures for students (Group 2;  $n = 22$ ) with Disruptive Behavior Disorders and co-occurring reading delimitations with measured reading comprehension scores equal to or greater than one standard deviation below the mean occurrence scores for: (a) outing restriction pretest ( $M = 9.45$ ,  $SD = 8.83$ ) and outing restriction posttest ( $M = 6.59$ ,  $SD = 8.84$ ), (b) time out room pretest ( $M = 1.77$ ,  $SD = 3.23$ ) and time out room posttest ( $M = 0.91$ ,  $SD = 2.24$ ), and (c) unit restriction pretest ( $M = 12.59$ ,  $SD = 8.93$ ) and unit restriction posttest ( $M = 6.36$ ,  $SD = 9.03$ ).

Pretest-posttest analysis of Program Specific Item measures for (a) outing restriction, (b) time out room, and (c) unit restriction for students (Group 2;  $n = 22$ ) with Disruptive Behavior Disorders and co-occurring reading delimitations with measured reading comprehension scores equal to or greater than one standard deviation below the mean were displayed in Table 24. The sixth pretest-posttest hypothesis was tested using the dependent  $t$  test. As seen in Table 24, the null hypothesis was rejected, in the direction of lower posttest mean scores and student core behavior improvement for and unit restriction,  $t(21) = -2.64$ ,  $p = .01$  (one-tailed),  $d = -0.563$ . Also as seen in Table 24, null hypotheses were not rejected, in the direction of lower posttest mean scores and student core behavior improvement for two measures, outing restriction,  $t(21) = -1.05$ ,  $p = .15$  (one-tailed),  $d = -0.234$ , and time out room,  $t(21) = -1.06$ ,  $p = .15$  (one-tailed),  $d = -0.229$ .

### Research Question #7

Table 25 displays means and standard deviations of pretest-posttest Program Specific Items measures for students (Group 3;  $n = 14$ ) with Disruptive Behavior Disorders and no co-occurring reading delimitations with measured reading comprehension scores equal to or greater than one standard deviation above the mean occurrence scores for: (a) outing restriction pretest ( $M = 7.79$ ,  $SD = 8.19$ ) and outing restriction posttest ( $M = 2.79$ ,  $SD = 7.08$ ), (b) time out room pretest ( $M = 1.14$ ,  $SD = 2.14$ ) and time out room posttest ( $M = 0.29$ ,  $SD = 1.06$ ), and (c) unit restriction pretest ( $M = 8.43$ ,  $SD = 9.79$ ) and unit restriction posttest ( $M = 1.79$ ,  $SD = 5.20$ ).

Pretest-posttest analysis of Program Specific Item measures for (a) outing restriction, (b) time out room, and (c) unit restriction for students (Group 3;  $n = 14$ ) with Disruptive Behavior Disorders and no co-occurring reading delimitations with measured reading comprehension scores equal to or greater than one standard deviation above the mean were displayed in Table 26. The seventh pretest-posttest hypothesis was tested using the dependent  $t$  test. As seen in Table 26, null hypotheses were rejected, in the direction of lower posttest mean scores and student core behavior improvement for two measures, (a) outing restriction,  $t(13) = -2.51$ ,  $p = .01$  (one-tailed),  $d = -0.675$ , and (c) unit restriction,  $t(13) = -2.28$ ,  $p < .05$  (one-tailed),  $d = -0.639$ . Also as seen in Table 26 the null hypothesis was not rejected, although measured in the direction of lower posttest mean scores and student core behavior improvement for (b) time out room,  $t(13) = -1.41$ ,  $p = .09$  (one-tailed),  $d = -0.398$ .



**Research Question #8**

The eighth posttest-posttest hypothesis was tested using Analysis of Variance (ANOVA). Results of ANOVA for students with Disruptive Behavior Disorders and co-occurring reading delimitations and no co-occurring reading delimitations posttest compared to posttest treatment progress checklist for Program Specific measures for outing restriction were displayed in Table 27. As seen in Table 27, the null hypothesis was not rejected for the Program Specific measures for (a) outing restriction where,  $F(2, 51) = 2.53, p = .09$ . Because no significant main effect was found *post hoc*, contrast analyses for the Program Specific measures for (a) outing restriction were not conducted.

Results of ANOVA for students with Disruptive Behavior Disorders and co-occurring reading delimitations and no co-occurring reading delimitations posttest compared to posttest treatment progress checklist for Program Specific measures for time out room were displayed in Table 28. As seen in Table 28, the null hypothesis was not rejected for the Program Specific measures for (b) time out room where,  $F(2, 51) = 0.56, p = .57$ . Because no significant main effect was found *post hoc*, contrast analyses for the Program Specific measures for (b) time out room were not conducted.

Results of ANOVA for students with Disruptive Behavior Disorders and co-occurring reading delimitations and no co-occurring reading delimitations posttest compared to posttest treatment progress checklist for Program Specific measures for unit restriction were displayed in Table 29. As seen in Table 29, the null hypothesis was not rejected for the Program Specific measures for (c) unit restriction where,  $F(2, 51) = 3.01, p = .06$ . Because no significant main effect was found *post hoc*, contrast analyses for the Program Specific measures for (c) unit restriction were not conducted.

Table 1

*Demographic Information of Individual students (Group 1; n = 18) with Disruptive Behavior Disorders and Co-Occurring Reading Delimitations with Measured Reading Comprehension Scores Greater than one Standard Deviation Below the Mean*

| Student Number | Gender | Ethnicity        | DSM-IV Axis I Classification <sup>a</sup> |
|----------------|--------|------------------|---|
| 1.             | Male   | African American | CD/ADHD                                   |
| 2.             | Female | Caucasian        | ODD/ADHD                                  |
| 3.             | Female | Hispanic         | ODD                                       |
| 4.             | Female | Caucasian        | ODD/ADHD                                  |
| 5.             | Female | Caucasian        | MOOD                                      |
| 6.             | Female | Caucasian        | MOOD/CD                                   |
| 7.             | Male   | Caucasian        | ADHD                                      |
| 8.             | Female | Caucasian        | RAD                                       |
| 9.             | Female | African American | ODD                                       |
| 10.            | Female | African American | MOOD/CD                                   |
| 11.            | Female | Caucasian        | MOOD/ODD/ADHD                             |
| 12.            | Female | Caucasian        | ODD                                       |
| 13.            | Female | Caucasian        | ODD                                       |
| 14.            | Female | Caucasian        | CD/PTSD                                   |
| 15.            | Female | Native American  | ODD                                       |
| 16.            | Male   | Multi-Ethnic     | CD/ADHD                                   |
| 17.            | Male   | Caucasian        | MOOD/CD                                   |
| 18.            | Female | African American | ODD/ADHD                                  |

*Note.* All students were admitted to the Boys Town Residential Treatment Center, Omaha, Nebraska, between 2008-2009 to replace aggressive and violent behaviors with acceptable alternative behaviors following 90 days of pro-social skills training.

<sup>a</sup>CD = Conduct Disorder; ODD = Oppositional Defiant Disorder; MOOD = Mood Disorder; ADHD = Attention Deficit Hyperactivity Disorder; PTSD = Post Traumatic Stress Disorder; RAD = Reactive Attachment Disorder of Childhood.

Table 2

*Demographic Information of Individual students (Group 2; n = 22) with Disruptive Behavior Disorders and Co-Occurring Reading Delimitations with Measured Reading Comprehension Scores Equal to But Not More Than One Standard Deviation Below the Mean*

| Student Number | Gender | Ethnicity        | DSM-IV Axis I Classification |
|----------------|--------|------------------|------------------------------|
| 1.             | Male   | African American | CD                           |
| 2.             | Male   | Multi-Ethnic     | MOOD/ODD/ADHD                |
| 3.             | Female | Multi-Ethnic     | ODD                          |
| 4.             | Male   | African American | CD                           |
| 5.             | Female | Caucasian        | MOOD/CD                      |
| 6.             | Male   | Caucasian        | ODD                          |
| 7.             | Female | Caucasian        | ODD                          |
| 8.             | Male   | African American | ODD                          |
| 9.             | Male   | African American | CD                           |
| 10.            | Male   | Caucasian        | ODD                          |
| 11.            | Female | Caucasian        | ADHD                         |
| 12.            | Female | Native American  | CD/ADHD                      |
| 13.            | Male   | Caucasian        | CD                           |
| 14.            | Male   | Caucasian        | MOOD/CD/ADHD                 |
| 15.            | Female | Caucasian        | MOOD/ODD                     |
| 16.            | Female | African American | CD/ADHD                      |
| 17.            | Female | Caucasian        | ODD                          |
| 18.            | Male   | Multi-Ethnic     | CD                           |
| 19.            | Female | Caucasian        | CD                           |
| 20.            | Female | Caucasian        | CD                           |
| 21.            | Female | Caucasian        | MOOD/ODD                     |
| 22.            | Female | Caucasian        | ODD                          |

*Note.* All students were admitted to the Boys Town Residential Treatment Center, Omaha, Nebraska, between 2008-2009 to replace aggressive and violent behaviors with acceptable alternative behaviors following 90 days of pro-social skills training.

<sup>a</sup>CD = Conduct Disorder; ODD = Oppositional Defiant Disorder; MOOD = Mood Disorder; ADHD = Attention Deficit Hyperactivity Disorder; PTSD = Post Traumatic Stress Disorder; RAD = Reactive Attachment Disorder of Childhood.

Table 3

*Demographic Information of Individual students (Group 3; n = 14) with Disruptive Behavior Disorders and Co-Occurring Reading Delimitations with Measured Reading Comprehension Scores Equal to or Greater Than One Standard Deviation Above the Mean*

| Student Number | Gender | Ethnicity        | DSM-IV Axis I Classification |
|----------------|--------|------------------|------------------------------|
| 1.             | Male   | African American | ODD/ADHD                     |
| 2.             | Male   | Caucasian        | CD/ADHD                      |
| 3.             | Female | African American | CD/ADHD                      |
| 4.             | Male   | Caucasian        | CD/ADHD                      |
| 5.             | Female | Caucasian        | MOOD/ODD                     |
| 6.             | Female | Multi-Ethnic     | ODD                          |
| 7.             | Female | Caucasian        | ODD/ADHD                     |
| 8.             | Male   | Caucasian        | MOOD/ODD/RAD                 |
| 9.             | Male   | African American | ODD/ADHD                     |
| 10.            | Male   | Caucasian        | MOOD/ODD                     |
| 11.            | Female | Caucasian        | MOOD/PTSD/ODD                |
| 12.            | Male   | African American | CD                           |
| 13.            | Male   | African American | CD                           |
| 14.            | Female | African American | CD/ADHD                      |

*Note.* All students were admitted to the Boys Town Residential Treatment Center, Omaha, Nebraska, between 2008-2009 to replace aggressive and violent behaviors with acceptable alternative behaviors following 90 days of pro-social skills training.

<sup>a</sup>CD = Conduct Disorder; ODD = Oppositional Defiant Disorder; MOOD = Mood Disorder; ADHD = Attention Deficit Hyperactivity Disorder; PTSD = Post Traumatic Stress Disorder; RAD = Reactive Attachment Disorder of Childhood.

Table 4

*Means and Standard Deviations of Pretest-Posttest Core Behavior Occurrence Measures for (a) Arguing, (b) Complaining, (c) Crying, (d) Defiance, (e) Interrupting Often, (f) Irritable Mood, (g) Not Participating in Program, (h) Off-Task Behavior, (i) Pouting, (j) Swearing and/or Obscenities, and (k) Talking Excessively for Students (Group 1; n = 18) With Disruptive Behavior Disorders and Co-Occurring Reading Delimitations With Measured Reading Comprehension Scores Greater Than One Standard Deviation Below the Mean<sup>a</sup>*

| Source of Data                    | Pretest  |               | Posttest |               |
|-----------------------------------|----------|---------------|----------|---------------|
|                                   | <i>M</i> | ( <i>SD</i> ) | <i>M</i> | ( <i>SD</i> ) |
| Core Behavior Occurrence Measures |          |               |          |               |
| Arguing                           | 5.67     | (4.06)        | 4.28     | (3.21)        |
| Complaining                       | 5.11     | (3.86)        | 3.39     | (2.14)        |
| Crying                            | 1.33     | (1.46)        | 1.11     | (1.57)        |
| Defiance                          | 7.56     | (3.47)        | 5.17     | (3.20)        |
| Interrupting often                | 1.78     | (1.77)        | 0.72     | (1.23)        |
| Irritable mood                    | 3.22     | (2.58)        | 2.78     | (2.98)        |
| Not participating in program      | 2.17     | (3.01)        | 0.78     | (1.44)        |
| Off-task behavior                 | 7.33     | (4.77)        | 4.89     | (2.83)        |
| Pouting                           | 2.83     | (2.57)        | 2.00     | (2.38)        |
| Swearing and/or obscenities       | 3.22     | (3.04)        | 1.56     | (1.89)        |
| Talking excessively               | 3.83     | (3.07)        | 2.22     | (2.32)        |

<sup>a</sup>Corresponds with Table 1.

Table 5

*Pretest-Posttest Analysis of Core Behavior Occurrence Measures for (a) Arguing, (b) Complaining, (c) Crying, (d) Defiance, (e) Interrupting Often, (f) Irritable Mood, (g) Not Participating in Program, (h) Off-Task Behavior, (i) Pouting, (j) Swearing and/or Obscenities, and (k) Talking Excessively for Students (Group 1; n = 18) With Disruptive Behavior Disorders and Co-Occurring Reading Delimitations With Measured Reading Comprehension Scores Greater Than One Standard Deviation Below the Mean<sup>a</sup>*

| Source of Data                    | <i>d</i> | <i>t</i> <sup>b</sup> | <i>p</i>            |
|-----------------------------------|----------|-----------------------|---------------------|
| Core Behavior Occurrence Measures |          |                       |                     |
| Arguing                           | -0.428   | -1.78                 | <i>p</i> = .05 sig. |
| Complaining                       | -0.780   | -2.71                 | <i>p</i> = .01 sig. |
| Crying                            | -0.167   | -0.72                 | <i>p</i> = .24 ns.  |
| Defiance                          | -0.593   | -2.52                 | <i>p</i> = .01 sig. |
| Interrupting often                | -0.630   | -2.59                 | <i>p</i> = .01 sig. |
| Irritable mood                    | -0.179   | -0.77                 | <i>p</i> = .23 ns.  |
| Not participating in program      | -1.041   | -2.94                 | <i>p</i> < .01 sig. |
| Off-task behavior                 | -0.572   | -2.28                 | <i>p</i> < .05 sig. |
| Pouting                           | -0.139   | -1.30                 | <i>p</i> = .11 ns.  |
| Swearing and/or obscenities       | -0.516   | -2.13                 | <i>p</i> < .05 sig. |
| Talking excessively               | -0.494   | -2.08                 | <i>p</i> < .05 sig. |

<sup>a</sup>Corresponds with Table 1.

<sup>b</sup>Negative *t* result is in the direction of lower posttest mean scores and student core behavior improvement.

Table 6

*Means and Standard Deviations of Pretest-Posttest Core Behavior Occurrence Measures for (a) Arguing, (b) Complaining, (c) Crying, (d) Defiance, (e) Interrupting Often, (f) Irritable Mood, (g) Not Participating in Program, (h) Off-Task Behavior, (i) Pouting, (j) Swearing and/or Obscenities, and (k) Talking Excessively for Students (Group 2; n = 22) With Disruptive Behavior Disorders and Co-Occurring Reading Delimitations With Measured Reading Comprehension Scores Equal to But Not More Than One Standard Deviation Below the Mean<sup>a</sup>*

| Source of Data                    | Pretest  |               | Posttest |               |
|-----------------------------------|----------|---------------|----------|---------------|
|                                   | <i>M</i> | ( <i>SD</i> ) | <i>M</i> | ( <i>SD</i> ) |
| Core Behavior Occurrence Measures |          |               |          |               |
| Arguing                           | 3.68     | (3.27)        | 2.95     | (3.15)        |
| Complaining                       | 3.82     | (3.57)        | 3.18     | (2.84)        |
| Crying                            | 1.09     | (1.34)        | 0.41     | (0.59)        |
| Defiance                          | 5.55     | (4.52)        | 4.64     | (3.20)        |
| Interrupting often                | 0.86     | (1.21)        | 0.77     | (1.15)        |
| Irritable mood                    | 2.36     | (2.77)        | 2.32     | (1.98)        |
| Not participating in program      | 1.55     | (2.74)        | 0.82     | (1.62)        |
| Off-task behavior                 | 4.45     | (4.04)        | 4.32     | (3.34)        |
| Pouting                           | 2.32     | (2.21)        | 2.14     | (1.96)        |
| Swearing and/or obscenities       | 2.36     | (2.96)        | 1.68     | (2.29)        |
| Talking excessively               | 3.41     | (3.03)        | 2.05     | (2.10)        |

<sup>a</sup>Corresponds with Table 2.

Table 7

*Pretest-Posttest Analysis of Core Behavior Occurrence Measures for (a) Arguing, (b) Complaining, (c) Crying, (d) Defiance, (e) Interrupting Often, (f) Irritable Mood, (g) Not Participating in Program, (h) Off-Task Behavior, (i) Pouting, (j) Swearing and/or Obscenities, and (k) Talking Excessively for Students (Group 2; n = 22) With Disruptive Behavior Disorders and Co-Occurring Reading Delimitations With Measured Reading Comprehension Scores Equal to But Not More Than One Standard Deviation Below the Mean<sup>a</sup>*

| Source of Data                    | <i>d</i> | <i>t</i> <sup>b</sup> | <i>p</i>                     |
|-----------------------------------|----------|-----------------------|------------------------------|
| Core Behavior Occurrence Measures |          |                       |                              |
| Arguing                           | -0.049   | -0.90                 | <i>p</i> = .19 <i>ns.</i>    |
| Complaining                       | -0.187   | -0.86                 | <i>p</i> = .20 <i>ns.</i>    |
| Crying                            | -0.534   | -2.30                 | <i>p</i> < .05 <i>sig.</i>   |
| Defiance                          | -0.194   | -0.89                 | <i>p</i> = .19 <i>ns.</i>    |
| Interrupting often                | -0.061   | -0.29                 | <i>p</i> = .39 <i>ns.</i>    |
| Irritable mood                    | -0.015   | -0.08                 | <i>p</i> = .46 <i>ns.</i>    |
| Not participating in program      | -0.319   | -1.38                 | <i>p</i> = .09 <i>ns.</i>    |
| Off-task behavior                 | -0.032   | -0.15                 | <i>p</i> = .43 <i>ns.</i>    |
| Pouting                           | -0.075   | -0.36                 | <i>p</i> = .36 <i>ns.</i>    |
| Swearing and/or obscenities       | -0.314   | -1.43                 | <i>p</i> = .08 <i>ns.</i>    |
| Talking excessively               | -0.469   | -2.13                 | <i>p</i> . < .05 <i>sig.</i> |

<sup>a</sup>Corresponds with Table 2.

<sup>b</sup>Negative *t* result is in the direction of lower posttest mean scores and student core behavior improvement.



Table 8

*Means and Standard Deviations of Pretest-Posttest Core Behavior Occurrence Measures for (a) Arguing, (b) Complaining, (c) Crying, (d) Defiance, (e) Interrupting Often, (f) Irritable Mood, (g) Not Participating in Program, (h) Off-Task Behavior, (i) Pouting, (j) Swearing and/or Obscenities, and (k) Talking Excessively for Students (Group 3; n = 14) With Disruptive Behavior Disorders and Co-Occurring Reading Delimitations With Measured Reading Comprehension Scores Equal or Greater Than One Standard Deviation Above the Mean<sup>a</sup>*

| Source of Data                    | Pretest  |               | Posttest |               |
|-----------------------------------|----------|---------------|----------|---------------|
|                                   | <i>M</i> | ( <i>SD</i> ) | <i>M</i> | ( <i>SD</i> ) |
| Core Behavior Occurrence Measures |          |               |          |               |
| Arguing                           | 5.43     | (3.45)        | 3.93     | (3.38)        |
| Complaining                       | 5.21     | (2.28)        | 4.29     | (2.99)        |
| Crying                            | 1.21     | (1.25)        | 0.93     | (1.20)        |
| Defiance                          | 7.79     | (3.16)        | 6.50     | (4.20)        |
| Interrupting often                | 1.71     | (2.05)        | 1.57     | (1.78)        |
| Irritable mood                    | 3.71     | (2.70)        | 2.71     | (2.72)        |
| Not participating in program      | 1.93     | (1.97)        | 0.79     | (2.15)        |
| Off-task behavior                 | 6.86     | (3.41)        | 4.71     | (3.04)        |
| Pouting                           | 3.21     | (2.36)        | 2.14     | (1.56)        |
| Swearing and/or obscenities       | 3.36     | (2.70)        | 1.64     | (2.06)        |
| Talking excessively               | 3.21     | (3.40)        | 2.36     | (2.76)        |

<sup>a</sup>Corresponds with Table 3.

Table 9

*Pretest-Posttest Analysis of Core Behavior Occurrence Measures for (a) Arguing, (b) Complaining, (c) Crying, (d) Defiance, (e) Interrupting Often, (f) Irritable Mood, (g) Not Participating in Program, (h) Off-Task Behavior, (i) Pouting, (j) Swearing and/or Obscenities, and (k) Talking Excessively for Students (Group 3; n = 14) With Disruptive Behavior Disorders and Co-Occurring Reading Delimitations With Measured Reading Comprehension Scores Equal to or Greater Than One Standard Deviation Above the Mean<sup>a</sup>*

| Source of Data                    | <i>d</i> | <i>t</i> <sup>b</sup> | <i>p</i>              |
|-----------------------------------|----------|-----------------------|-----------------------|
| Core Behavior Occurrence Measures |          |                       |                       |
| Arguing                           | -0.468   | -1.75                 | <i>p</i> = .05 sig.   |
| Complaining                       | -0.386   | -1.25                 | <i>p</i> = .12 ns.    |
| Crying                            | -0.305   | -1.17                 | <i>p</i> = .13 ns.    |
| Defiance                          | -0.407   | -1.47                 | <i>p</i> = .08 ns.    |
| Interrupting often                | -0.069   | -0.26                 | <i>p</i> = .39 ns.    |
| Irritable mood                    | -0.454   | -1.71                 | <i>p</i> = .06 ns.    |
| Not participating in program      | -0.553   | -1.46                 | <i>p</i> = .08 ns.    |
| Off-task behavior                 | -0.637   | -2.50                 | <i>p</i> = .01 sig.   |
| Pouting                           | -0.419   | -1.33                 | <i>p</i> = .10 ns.    |
| Swearing and/or obscenities       | -0.779   | -2.83                 | <i>p</i> = .01 sig.   |
| Talking excessively               | -0.617   | -2.20                 | <i>p</i> . < .05 sig. |

<sup>a</sup>Corresponds with Table 3.

<sup>b</sup>Negative *t* result is in the direction of lower posttest mean scores and student core behavior improvement.

Table 10

*Results of Analysis of Variance for Students with Disruptive Behavior Disorders and Co-Occurring Reading Delimitations Posttest Compared to Posttest Treatment Progress Checklist for Core Behavior Occurrence Measure for Arguing*

| Source of Variation | Sum of Squares | Mean Square | <i>df</i> | <i>F</i>          | <i>p-value</i> |
|---------------------|----------------|-------------|-----------|-------------------|----------------|
| Between Groups      | 18.82          | 9.41        | 2         | 0.90 <sup>†</sup> | .41            |
| Within Groups       | 533.49         | 10.46       | 51        |                   |                |

Core Behavior Occurrence:

| Arguing   |               |
|-----------|---------------|
| Mean      | ( <i>SD</i> ) |
| $\bar{A}$ | 4.28 (3.21)   |
| $\bar{B}$ | 2.95 (3.15)   |
| $\bar{C}$ | 3.93 (3.38)   |

*Note.* A = Students with disruptive behavior disorders and co-occurring reading delimitations with measured reading comprehension scores greater than one standard deviation below the mean; B = Students with disruptive behavior disorders and co-occurring reading delimitations with measured reading comprehension scores equal to or greater than one standard deviation below the mean; C = Students with disruptive behavior disorders and no co-occurring reading delimitations with measured reading comprehension scores equal to or greater than one standard deviation above the mean.

<sup>†</sup>*ns.* No *post hoc* results calculated or displayed.

Table 11

*Results of Analysis of Variance for Students with Disruptive Behavior Disorders and Co-Occurring Reading Delimitations Posttest Compared to Posttest Treatment Progress Checklist for Core Behavior Occurrence Measure for Complaining*

| Source of Variation | Sum of Squares | Mean Square | <i>df</i> | <i>F</i>          | <i>p-value</i> |
|---------------------|----------------|-------------|-----------|-------------------|----------------|
| Between Groups      | 11.02          | 5.51        | 2         | 0.77 <sup>†</sup> | .47            |
| Within Groups       | 364.41         | 7.15        | 51        |                   |                |

Core Behavior Occurrence:

Complaining

| Mean      | ( <i>SD</i> ) |
|-----------|---------------|
| $\bar{A}$ | 3.39 (2.14)   |
| $\bar{B}$ | 3.18 (2.84)   |
| $\bar{C}$ | 4.29 (2.99)   |

*Note.* A = Students with disruptive behavior disorders and co-occurring reading delimitations with measured reading comprehension scores greater than one standard deviation below the mean; B = Students with disruptive behavior disorders and co-occurring reading delimitations with measured reading comprehension scores equal to or greater than one standard deviation below the mean; C = Students with disruptive behavior disorders and no co-occurring reading delimitations with measured reading comprehension scores equal to or greater than one standard deviation above the mean.

<sup>†</sup>*ns.* No *post hoc* results calculated or displayed.

Table 12

*Results of Analysis of Variance for Students with Disruptive Behavior Disorders and Co-Occurring Reading Delimitations Posttest Compared to Posttest Treatment Progress Checklist for Core Behavior Occurrence Measure for Crying*

| Source of Variation | Sum of Squares | Mean Square | <i>df</i> | <i>F</i>          | <i>p-value</i> |
|---------------------|----------------|-------------|-----------|-------------------|----------------|
| Between Groups      | 5.31           | 2.65        | 2         | 1.99 <sup>†</sup> | .15            |
| Within Groups       | 68.02          | 1.33        | 51        |                   |                |

Core Behavior Occurrence:

| Crying    |               |
|-----------|---------------|
| Mean      | ( <i>SD</i> ) |
| $\bar{A}$ | 1.11 (1.57)   |
| $\bar{B}$ | 0.41 (0.59)   |
| $\bar{C}$ | 0.93 (1.20)   |

*Note.* A = Students with disruptive behavior disorders and co-occurring reading delimitations with measured reading comprehension scores greater than one standard deviation below the mean; B = Students with disruptive behavior disorders and co-occurring reading delimitations with measured reading comprehension scores equal to or greater than one standard deviation below the mean; C = Students with disruptive behavior disorders and no co-occurring reading delimitations with measured reading comprehension scores equal to or greater than one standard deviation above the mean.

<sup>†</sup>*ns.* No *post hoc* results calculated or displayed.

Table 13

*Results of Analysis of Variance for Students with Disruptive Behavior Disorders and Co-Occurring Reading Delimitations Posttest Compared to Posttest Treatment Progress Checklist for Core Behavior Occurrence Measure for Defiance*

| Source of Variation | Sum of Squares | Mean Square | <i>df</i> | <i>F</i>          | <i>p-value</i> |
|---------------------|----------------|-------------|-----------|-------------------|----------------|
| Between Groups      | 30.17          | 15.08       | 2         | 1.24 <sup>†</sup> | .30            |
| Within Groups       | 619.09         | 12.14       | 51        |                   |                |

Core Behavior Occurrence:

| Defiance  |               |
|-----------|---------------|
| Mean      | ( <i>SD</i> ) |
| $\bar{A}$ | 5.17 (3.20)   |
| $\bar{B}$ | 4.64 (3.20)   |
| $\bar{C}$ | 6.50 (4.20)   |

*Note.* A = Students with disruptive behavior disorders and co-occurring reading delimitations with measured reading comprehension scores greater than one standard deviation below the mean; B = Students with disruptive behavior disorders and co-occurring reading delimitations with measured reading comprehension scores equal to or greater than one standard deviation below the mean; C = Students with disruptive behavior disorders and no co-occurring reading delimitations with measured reading comprehension scores equal to or greater than one standard deviation above the mean.

<sup>†</sup>*ns.* No *post hoc* results calculated or displayed.

Table 14

*Results of Analysis of Variance for Students with Disruptive Behavior Disorders and Co-Occurring Reading Delimitations Posttest Compared to Posttest Treatment Progress Checklist for Core Behavior Occurrence Measure for Interrupting Often*

| Source of Variation | Sum of Squares | Mean Square | <i>df</i> | <i>F</i>          | <i>p-value</i> |
|---------------------|----------------|-------------|-----------|-------------------|----------------|
| Between Groups      | 7.02           | 3.51        | 2         | 1.89 <sup>†</sup> | .16            |
| Within Groups       | 94.90          | 1.86        | 51        |                   |                |

Core Behavior Occurrence:

Interrupting Often

| Mean      | ( <i>SD</i> ) |
|-----------|---------------|
| $\bar{A}$ | 0.72 (1.23)   |
| $\bar{B}$ | 0.77 (1.15)   |
| $\bar{C}$ | 1.57 (1.78)   |

*Note.* A = Students with disruptive behavior disorders and co-occurring reading delimitations with measured reading comprehension scores greater than one standard deviation below the mean; B = Students with disruptive behavior disorders and co-occurring reading delimitations with measured reading comprehension scores equal to or greater than one standard deviation below the mean; C = Students with disruptive behavior disorders and no co-occurring reading delimitations with measured reading comprehension scores equal to or greater than one standard deviation above the mean.

<sup>†</sup>*ns.* No *post hoc* results calculated or displayed.

Table 15

*Results of Analysis of Variance for Students with Disruptive Behavior Disorders and Co-Occurring Reading Delimitations Posttest Compared to Posttest Treatment Progress Checklist for Core Behavior Occurrence Measure for Irritable Mood*

| Source of Variation | Sum of Squares | Mean Square | <i>df</i> | <i>F</i>          | <i>p-value</i> |
|---------------------|----------------|-------------|-----------|-------------------|----------------|
| Between Groups      | 2.46           | 1.23        | 2         | 0.19 <sup>†</sup> | .83            |
| Within Groups       | 330.74         | 6.49        | 51        |                   |                |

Core Behavior Occurrence:

| Irritable Mood |               |
|----------------|---------------|
| Mean           | ( <i>SD</i> ) |
| $\bar{A}$      | 2.78 (2.98)   |
| $\bar{B}$      | 2.32 (1.98)   |
| $\bar{C}$      | 2.71 (2.72)   |

*Note.* A = Students with disruptive behavior disorders and co-occurring reading delimitations with measured reading comprehension scores greater than one standard deviation below the mean; B = Students with disruptive behavior disorders and co-occurring reading delimitations with measured reading comprehension scores equal to or greater than one standard deviation below the mean; C = Students with disruptive behavior disorders and no co-occurring reading delimitations with measured reading comprehension scores equal to or greater than one standard deviation above the mean.

<sup>†</sup>*ns.* No *post hoc* results calculated or displayed.



Table 16

*Results of Analysis of Variance for Students with Disruptive Behavior Disorders and Co-Occurring Reading Delimitations Posttest Compared to Posttest Treatment Progress Checklist for Core Behavior Occurrence Measure for Not Participating in Program*

| Source of Variation | Sum of Squares | Mean Square | <i>df</i> | <i>F</i>          | <i>p-value</i> |
|---------------------|----------------|-------------|-----------|-------------------|----------------|
| Between Groups      | 0.02           | 0.01        | 2         | 0.00 <sup>†</sup> | .99            |
| Within Groups       | 150.74         | 2.96        | 51        |                   |                |

Core Behavior Occurrence:

Not Participating in Program

| Mean      | ( <i>SD</i> ) |
|-----------|---------------|
| $\bar{A}$ | 0.78 (1.44)   |
| $\bar{B}$ | 0.82 (1.62)   |
| $\bar{C}$ | 0.79 (2.15)   |

*Note.* A = Students with disruptive behavior disorders and co-occurring reading delimitations with measured reading comprehension scores greater than one standard deviation below the mean; B = Students with disruptive behavior disorders and co-occurring reading delimitations with measured reading comprehension scores equal to or greater than one standard deviation below the mean; C = Students with disruptive behavior disorders and no co-occurring reading delimitations with measured reading comprehension scores equal to or greater than one standard deviation above the mean.

<sup>†</sup>*ns.* No *post hoc* results calculated or displayed.

Table 17

*Results of Analysis of Variance for Students with Disruptive Behavior Disorders and Co-Occurring Reading Delimitations Posttest Compared to Posttest Treatment Progress Checklist for Core Behavior Occurrence Measure for Off-Task Behavior*

| Source of Variation | Sum of Squares | Mean Square | <i>df</i> | <i>F</i>          | <i>p-value</i> |
|---------------------|----------------|-------------|-----------|-------------------|----------------|
| Between Groups      | 3.43           | 1.71        | 2         | 0.18 <sup>†</sup> | .84            |
| Within Groups       | 491.41         | 9.64        | 51        |                   |                |

Core Behavior Occurrence:

| Off-Task Behavior |               |
|-------------------|---------------|
| Mean              | ( <i>SD</i> ) |
| $\bar{A}$         | 4.89 (2.83)   |
| $\bar{B}$         | 4.32 (3.34)   |
| $\bar{C}$         | 4.71 (3.04)   |

*Note.* A = Students with disruptive behavior disorders and co-occurring reading delimitations with measured reading comprehension scores greater than one standard deviation below the mean; B = Students with disruptive behavior disorders and co-occurring reading delimitations with measured reading comprehension scores equal to or greater than one standard deviation below the mean; C = Students with disruptive behavior disorders and no co-occurring reading delimitations with measured reading comprehension scores equal to or greater than one standard deviation above the mean.

<sup>†</sup>*ns.* No *post hoc* results calculated or displayed.

Table 18

*Results of Analysis of Variance for Students with Disruptive Behavior Disorders and Co-Occurring Reading Delimitations Posttest Compared to Posttest Treatment Progress Checklist for Core Behavior Occurrence Measure for Pouting*

| Source of Variation | Sum of Squares | Mean Square | <i>df</i> | <i>F</i>          | <i>p-value</i> |
|---------------------|----------------|-------------|-----------|-------------------|----------------|
| Between Groups      | 0.23           | 0.12        | 2         | 0.03 <sup>†</sup> | .97            |
| Within Groups       | 204.31         | 4.01        | 51        |                   |                |

Core Behavior Occurrence:

| Pouting   |               |
|-----------|---------------|
| Mean      | ( <i>SD</i> ) |
| $\bar{A}$ | 2.00 (2.38)   |
| $\bar{B}$ | 2.14 (1.96)   |
| $\bar{C}$ | 2.14 (1.56)   |

*Note.* A = Students with disruptive behavior disorders and co-occurring reading delimitations with measured reading comprehension scores greater than one standard deviation below the mean; B = Students with disruptive behavior disorders and co-occurring reading delimitations with measured reading comprehension scores equal to or greater than one standard deviation below the mean; C = Students with disruptive behavior disorders and no co-occurring reading delimitations with measured reading comprehension scores equal to or greater than one standard deviation above the mean.

<sup>†</sup>*ns.* No *post hoc* results calculated or displayed.

Table 19

*Results of Analysis of Variance for Students with Disruptive Behavior Disorders and Co-Occurring Reading Delimitations Posttest Compared to Posttest Treatment Progress Checklist for Core Behavior Occurrence Measure for Swearing and/or Obscenities*

| Source of Variation | Sum of Squares | Mean Square | <i>df</i> | <i>F</i>          | <i>p-value</i> |
|---------------------|----------------|-------------|-----------|-------------------|----------------|
| Between Groups      | 0.16           | 0.08        | 2         | 0.02 <sup>†</sup> | .98            |
| Within Groups       | 226.43         | 4.44        | 51        |                   |                |

Core Behavior Occurrence:

Swearing and/or Obscenities

| Mean      | ( <i>SD</i> ) |
|-----------|---------------|
| $\bar{A}$ | 1.56 (1.89)   |
| $\bar{B}$ | 1.68 (2.29)   |
| $\bar{C}$ | 1.64 (2.06)   |

*Note.* A = Students with disruptive behavior disorders and co-occurring reading delimitations with measured reading comprehension scores greater than one standard deviation below the mean; B = Students with disruptive behavior disorders and co-occurring reading delimitations with measured reading comprehension scores equal to or greater than one standard deviation below the mean; C = Students with disruptive behavior disorders and no co-occurring reading delimitations with measured reading comprehension scores equal to or greater than one standard deviation above the mean.

<sup>†</sup>*ns.* No *post hoc* results calculated or displayed.

Table 20

*Results of Analysis of Variance for Students with Disruptive Behavior Disorders and Co-Occurring Reading Delimitations Posttest Compared to Posttest Treatment Progress Checklist for Core Behavior Occurrence Measure for Talking Excessively*

| Source of Variation | Sum of Squares | Mean Square | <i>df</i> | <i>F</i>          | <i>p-value</i> |
|---------------------|----------------|-------------|-----------|-------------------|----------------|
| Between Groups      | 0.87           | 0.43        | 2         | 0.08 <sup>†</sup> | .92            |
| Within Groups       | 284.15         | 5.55        | 51        |                   |                |

Core Behavior Occurrence:

| Talking Excessively |               |
|---------------------|---------------|
| Mean                | ( <i>SD</i> ) |
| $\bar{A}$           | 2.22 (2.32)   |
| $\bar{B}$           | 2.05 (2.10)   |
| $\bar{C}$           | 2.36 (2.76)   |

*Note.* A = Students with disruptive behavior disorders and co-occurring reading delimitations with measured reading comprehension scores greater than one standard deviation below the mean; B = Students with disruptive behavior disorders and co-occurring reading delimitations with measured reading comprehension scores equal to or greater than one standard deviation below the mean; C = Students with disruptive behavior disorders and no co-occurring reading delimitations with measured reading comprehension scores equal to or greater than one standard deviation above the mean.

<sup>†</sup>*ns.* No *post hoc* results calculated or displayed.

Table 21

*Means and Standard Deviations of Pretest-Posttest Program Specific Measures for (a) Outing Restriction, (b) Time Out Room, and (c) Unit Restriction for Students (Group 1; n = 18) With Disruptive Behavior Disorders and Co-Occurring Reading Delimitations With Measured Reading Comprehension Scores Greater Than One Standard Deviation Below the Mean<sup>a</sup>*

| Source of Data            | Pretest  |               | Posttest |               |
|---------------------------|----------|---------------|----------|---------------|
|                           | <i>M</i> | ( <i>SD</i> ) | <i>M</i> | ( <i>SD</i> ) |
| Program Specific Measures |          |               |          |               |
| Outing Restriction        | 8.11     | (8.78)        | 1.72     | (4.48)        |
| Time Out Room             | 2.78     | (5.40)        | 0.78     | (1.47)        |
| Unit Restriction          | 11.22    | (9.49)        | 1.89     | (3.32)        |

<sup>a</sup>Corresponds with Table 1.

Table 22

*Pretest-Posttest Analysis of Program Specific Measures (a) Outing Restriction, (b) Time Out Room, and (c) Unit Restriction for Students (Group 1; n = 18) With Disruptive Behavior Disorders and Co-Occurring Reading Delimitations With Measured Reading Comprehension Scores Greater Than One Standard Deviation Below the Mean<sup>a</sup>*

| Source of Data            | <i>d</i> | <i>t</i> <sup>b</sup> | <i>p</i>             |
|---------------------------|----------|-----------------------|----------------------|
| Program Specific Measures |          |                       |                      |
| Outing Restriction        | -0.809   | -3.16                 | <i>p</i> < .01 sig.  |
| Time Out Room             | -1.188   | -2.04                 | <i>p</i> < .05 sig.  |
| Unit Restriction          | -1.117   | -3.76                 | <i>p</i> = .001 sig. |

<sup>a</sup>Corresponds with Table 1.

<sup>b</sup>Negative *t* result is in the direction of lower posttest mean scores and student core behavior improvement.

Table 23

*Means and Standard Deviations of Pretest-Posttest Program Specific Measures for (a) Outing Restriction, (b) Time Out Room, and (c) Unit Restriction for Students (Group 2; n = 22) With Disruptive Behavior Disorders and Co-Occurring Reading Delimitations With Measured Reading Comprehension Scores Equal to or Greater Than One Standard Deviation Below the Mean<sup>a</sup>*

| Source of Data            | Pretest  |               | Posttest |               |
|---------------------------|----------|---------------|----------|---------------|
|                           | <i>M</i> | ( <i>SD</i> ) | <i>M</i> | ( <i>SD</i> ) |
| Program Specific Measures |          |               |          |               |
| Outing Restriction        | 9.45     | (8.83)        | 6.59     | (8.84)        |
| Time Out Room             | 1.77     | (3.23)        | 0.91     | (2.24)        |
| Unit Restriction          | 12.59    | (8.93)        | 6.36     | (9.03)        |

<sup>a</sup>Corresponds with Table 2.



Table 24

*Pretest-Posttest Analysis of Program Specific Measures (a) Outing Restriction, (b) Time Out Room, and (c) Unit Restriction for Students (Group 2; n = 22) With Disruptive Behavior Disorders and Co-Occurring Reading Delimitations With Measured Reading Comprehension Scores Equal to or Greater Than One Standard Deviation Below the Mean<sup>a</sup>*

| Source of Data            | <i>d</i> | <i>t</i> <sup>b</sup> | <i>p</i>                   |
|---------------------------|----------|-----------------------|----------------------------|
| Program Specific Measures |          |                       |                            |
| Outing Restriction        | -0.234   | -1.05                 | <i>p</i> = .15 <i>ns.</i>  |
| Time Out Room             | -0.229   | -1.06                 | <i>p</i> = .15 <i>ns.</i>  |
| Unit Restriction          | -0.563   | -2.64                 | <i>p</i> = .01 <i>sig.</i> |

<sup>a</sup>Corresponds with Table 2.

<sup>b</sup>Negative *t* result is in the direction of lower posttest mean scores and student core behavior improvement.

Table 25

*Means and Standard Deviations of Pretest-Posttest Program Specific Measures for (a) Outing Restriction, (b) Time Out Room, and (c) Unit Restriction for Students (Group 3; n = 14) With Disruptive Behavior Disorders and Co-Occurring Reading Delimitations With Measured Reading Comprehension Scores Equal to or Greater Than One Standard Deviation Above the Mean<sup>a</sup>*

| Source of Data            | Pretest  |               | Posttest |               |
|---------------------------|----------|---------------|----------|---------------|
|                           | <i>M</i> | ( <i>SD</i> ) | <i>M</i> | ( <i>SD</i> ) |
| Program Specific Measures |          |               |          |               |
| Outing Restriction        | 7.79     | (8.19)        | 2.79     | (7.08)        |
| Time Out Room             | 1.14     | (2.14)        | 0.29     | (1.06)        |
| Unit Restriction          | 8.43     | (9.79)        | 1.79     | (5.20)        |

<sup>a</sup>Corresponds with Table 3.

Table 26

*Pretest-Posttest Analysis of Program Specific Measures (a) Outing Restriction, (b) Time Out Room, and (c) Unit Restriction for Students (Group 3; n = 14) With Disruptive Behavior Disorders and Co-Occurring Reading Delimitations With Measured Reading Comprehension Scores Equal to or Greater Than One Standard Deviation Above the Mean<sup>a</sup>*

| Source of Data            | <i>d</i> | <i>t</i> <sup>b</sup> | <i>p</i>            |
|---------------------------|----------|-----------------------|---------------------|
| Program Specific Measures |          |                       |                     |
| Outing Restriction        | -0.675   | -2.51                 | <i>p</i> = .01 sig. |
| Time Out Room             | -0.398   | -1.41                 | <i>p</i> = .09 ns.  |
| Unit Restriction          | -0.639   | -2.28                 | <i>p</i> < .05 sig. |

<sup>a</sup>Corresponds with Table 3.

<sup>b</sup>Negative *t* result is in the direction of lower posttest mean scores and student core behavior improvement.

Table 27

*Results of Analysis of Variance for Students with Disruptive Behavior Disorders and Co-Occurring Reading Delimitations Posttest Compared to Posttest Treatment Progress Checklist for of Program Specific Measures for Outing Restriction*

| Source of Variation | Sum of Squares | Mean Square | <i>df</i> | <i>F</i>          | <i>p-value</i> |
|---------------------|----------------|-------------|-----------|-------------------|----------------|
| Between Groups      | 261.70         | 130.85      | 2         | 2.53 <sup>†</sup> | .09            |
| Within Groups       | 2635.29        | 51.67       | 51        |                   |                |

Program Specific Measures:

| Outing Restriction |               |
|--------------------|---------------|
| Mean               | ( <i>SD</i> ) |
| $\bar{A}$          | 1.72 (4.48)   |
| $\bar{B}$          | 6.59 (8.84)   |
| $\bar{C}$          | 2.79 (7.08)   |

*Note.* A = Students with disruptive behavior disorders and co-occurring reading delimitations with measured reading comprehension scores greater than one standard deviation below the mean; B = Students with disruptive behavior disorders and co-occurring reading delimitations with measured reading comprehension scores equal to or greater than one standard deviation below the mean; C = Students with disruptive behavior disorders and no co-occurring reading delimitations with measured reading comprehension scores equal to or greater than one standard deviation above the mean.

<sup>†</sup>*ns.* No *post hoc* results calculated or displayed.

Table 28

*Results of Analysis of Variance for Students with Disruptive Behavior Disorders and Co-Occurring Reading Delimitations Posttest Compared to Posttest Treatment Progress Checklist for of Program Specific Measures for Time Out Room*

| Source of Variation | Sum of Squares | Mean Square | <i>df</i> | <i>F</i>          | <i>p-value</i> |
|---------------------|----------------|-------------|-----------|-------------------|----------------|
| Between Groups      | 3.47           | 1.74        | 2         | 0.56 <sup>†</sup> | .57            |
| Within Groups       | 157.79         | 3.09        | 51        |                   |                |

Program Specific Measures:

Time Out Room

| Mean      | ( <i>SD</i> ) |
|-----------|---------------|
| $\bar{A}$ | 0.78 (1.47)   |
| $\bar{B}$ | 0.91 (2.24)   |
| $\bar{C}$ | 0.29 (1.06)   |

*Note.* A = Students with disruptive behavior disorders and co-occurring reading delimitations with measured reading comprehension scores greater than one standard deviation below the mean; B = Students with disruptive behavior disorders and co-occurring reading delimitations with measured reading comprehension scores equal to or greater than one standard deviation below the mean; C = Students with disruptive behavior disorders and no co-occurring reading delimitations with measured reading comprehension scores equal to or greater than one standard deviation above the mean.

<sup>†</sup>*ns.* No *post hoc* results calculated or displayed.

Table 29

*Results of Analysis of Variance for Students with Disruptive Behavior Disorders and Co-Occurring Reading Delimitations Posttest Compared to Posttest Treatment Progress Checklist for of Program Specific Measures for Unit Restriction*

| Source of Variation | Sum of Squares | Mean Square | <i>df</i> | <i>F</i>          | <i>p-value</i> |
|---------------------|----------------|-------------|-----------|-------------------|----------------|
| Between Groups      | 266.42         | 133.21      | 2         | 3.01 <sup>†</sup> | .06            |
| Within Groups       | 2255.23        | 44.22       | 51        |                   |                |

Program Specific Measures:

| Unit Restriction |               |
|------------------|---------------|
| Mean             | ( <i>SD</i> ) |
| $\bar{A}$        | 1.89 (3.32)   |
| $\bar{B}$        | 6.36 (9.03)   |
| $\bar{C}$        | 1.79 (5.20)   |

*Note.* A = Students with disruptive behavior disorders and co-occurring reading delimitations with measured reading comprehension scores greater than one standard deviation below the mean; B = Students with disruptive behavior disorders and co-occurring reading delimitations with measured reading comprehension scores equal to or greater than one standard deviation below the mean; C = Students with disruptive behavior disorders and no co-occurring reading delimitations with measured reading comprehension scores equal to or greater than one standard deviation above the mean.

<sup>†</sup>*ns.* No *post hoc* results calculated or displayed.

## CHAPTER FIVE

### Conclusions and Discussion

#### Purpose of the Study

The purpose of this study was to evaluate the effect of varying levels of reading delimitations on the ability of students with disruptive behavior disorders admitted to a residential treatment center to demonstrate language-based pro-social behavior replacement skills.

The study's two dependent variables were Boys Town Residential Treatment Center, Treatment Progress Checklist for (1) Core Behavior Occurrence and (2) Core Behavior Program Specific Items. The first dependent variable measuring (1) Core Behavior Occurrence evaluated pretest week two and posttest week eleven frequencies for: (a) arguing, (b) complaining, (c) crying, (d) defiance, (e) interrupting often, (f) irritable mood, (g) not participating in program, (h) off-task behavior, (i) pouting, (j) swearing and/or obscenities, and (k) talking excessively. The second dependent variable measuring (2) Core Behavior Program Specific Items evaluated pretest week two and posttest week eleven frequencies for: (a) outing restriction, (b) time out room, and (c) unit restriction. The following conclusions may be drawn from the study for each of the eight research questions.

#### Research Question #1 Conclusion

Overall, pretest-posttest results indicated beginning behavioral treatment end of second week pretest Core Behavior Occurrence measures for students (Group 1;  $n = 18$ ) with Disruptive Behavior Disorders and co-occurring reading delimitations with measured reading comprehension scores greater than one standard deviation below the

mean compared to ending behavioral treatment end of eleventh week posttest Core Behavior Occurrence measures were all observed in the direction of lower posttest mean scores and student core behavior improvement. Eight of the 11 Core Behavior Occurrence measures (73%) were also found to be statistically significantly different. These measures  $M_{diff}$  were: arguing (-1.39), complaining (-1.72), defiance (-2.39), interrupting often (-1.06), not participating in program (-1.39), off-task behavior (-2.44), swearing and/or obscenities (-1.66), and talking excessively (-1.61). Three of the 11 Core Behavior Occurrence measures (27%) were not statistically significantly different. These measures  $M_{diff}$  were: crying (-0.22), irritable mood (-0.44), and pouting (-0.83).

Finally, based on the pretest-posttest results it may be concluded that students (Group 1;  $n = 18$ ) with Disruptive Behavior Disorders and co-occurring reading delimitations with measured reading comprehension scores greater than one standard deviation below the mean benefited from their 90 day participation in the Boys Town Residential Treatment Center program. Furthermore the reduction in negative behavior occurrences may indicate readiness for student less restrictive placement and interventions for the majority of these youth.

### **Research Question #2 Conclusion**

Overall, pretest-posttest results indicated beginning behavioral treatment end of second week pretest Core Behavior Occurrence measures for students (Group 2;  $n = 22$ ) with Disruptive Behavior Disorders and co-occurring reading delimitations with measured reading comprehension scores equal to but not more than one standard deviation below the mean compared to ending behavioral treatment end of eleventh week posttest Core Behavior Occurrence measures were all observed in the direction of lower



posttest mean scores and student core behavior improvement. Two of the 11 Core Behavior Occurrence measures (18%) were also found to be statistically significantly different. These measures  $M_{diff}$  were: crying (-0.68) and talking excessively (-1.36). Nine of the 11 Core Behavior Occurrence measures (82%) were not statistically significantly different. These measures  $M_{diff}$  were: arguing (-0.73), complaining (-0.64), defiance (-0.91), interrupting often (-0.09), irritable mood (-0.04), not participating in program (-0.73), off-task behavior (-0.13), pouting (-0.18), and swearing and/or obscenities (-0.68).

Finally, based on the pretest-posttest results it may be concluded that students (Group 2;  $n = 22$ ) with Disruptive Behavior Disorders and co-occurring reading delimitations with measured reading comprehension scores equal to but not more than one standard deviation below the mean benefited from their 90 day participation in the Boys Town Residential Treatment Center program. Furthermore the reduction in negative behavior occurrences may indicate student readiness for less restrictive placement and interventions for the majority of these youth.

### **Research Question #3 Conclusion**

Overall, pretest-posttest results indicated beginning behavioral treatment end of second week pretest Core Behavior Occurrence measures for students (Group 3;  $n = 14$ ) with Disruptive Behavior Disorders and no co-occurring reading delimitations with measured reading comprehension scores equal to or greater than one standard deviation above the mean compared to ending behavioral treatment end of eleventh week posttest Core Behavior Occurrence measures were all observed in the direction of lower posttest mean scores and student core behavior improvement. Four of the 11 Core Behavior

Occurrence measures (36%) were also found to be statistically significantly different. These measures  $M_{diff}$  were: arguing (-1.50), off-task behavior (-2.15), swearing and/or obscenities (-1.72), and talking excessively (-0.85). Seven of the 11 Core Behavior Occurrence measures (64%) were not statistically significantly different. These measures  $M_{diff}$  were: complaining (-0.64), crying (-0.28), defiance (-1.29), interrupting often (-0.14), irritable mood (-1.00), not participating in program (-1.14), and pouting (-1.57).

Finally, based on the pretest-posttest results it may be concluded that students (Group 3;  $n = 14$ ) with Disruptive Behavior Disorders and no co-occurring reading delimitations with measured reading comprehension scores equal to or greater than one standard deviation above the mean benefited from their 90-day participation in the Boys Town Residential Treatment Center program. Furthermore the reduction in negative behavior occurrences may indicate student readiness for less restrictive placement and interventions for the majority of these youth.

#### **Research Question #4 Conclusion**

Overall, posttest-posttest between group results indicated students with Disruptive Behavior Disorders and co-occurring reading delimitations and no co-occurring reading delimitations posttest compared to posttest treatment progress checklist for Core Behavior Occurrence measures equally benefited from their 90-day participation in the Boys Town Residential Treatment Center program. Regardless of the measured reading level differences for the three groups, Program Specific measures equipoise was observed at the end of the 90-day treatment period indicating that student behavioral intervention program requirements are independent of reading level and required reading necessary to demonstrate language-based pro-social behavior replacement skills.

**Research Question #5 Conclusion**

Overall, pretest-posttest results indicated beginning behavioral treatment end of second week pretest Program Specific measures for students (Group 1;  $n = 18$ ) with Disruptive Behavior Disorders and co-occurring reading delimitations with measured reading comprehension scores greater than one standard deviation below the mean compared to ending behavioral treatment end of eleventh week posttest Program Specific measures were all observed in the direction of lower posttest mean scores and student core behavior improvement. Three of the three Program Specific measures (100%) were also found to be statistically significantly different. These measures  $M_{diff}$  were: outing restriction (-6.39), time out room (-2.00), and unit restriction (-9.33).

Finally, based on the pretest-posttest results it may be concluded that students (Group 1;  $n = 18$ ) with Disruptive Behavior Disorders and co-occurring reading delimitations with measured reading comprehension scores greater than one standard deviation below the mean benefited from their 90 day participation in the Boys Town Residential Treatment Center program. Furthermore the reduction in negative behavior occurrences may indicate readiness for student less restrictive placement and interventions for the majority of these youth.

**Research Question #6 Conclusion**

Overall, pretest-posttest results indicated beginning behavioral treatment end of second week pretest Program Specific measures for students (Group 2;  $n = 22$ ) with Disruptive Behavior Disorders and co-occurring reading delimitations with measured reading comprehension scores equal to but not more than one standard deviation below the mean compared to ending behavioral treatment end of eleventh week posttest

Program Specific measures were all observed in the direction of lower posttest mean scores and student core behavior improvement. One of the three Program Specific measures (33%) was also found to be statistically significantly different. This measure's  $M_{diff}$  was: unit restriction (-6.23). Two of the three Program Specific measures (67%) were not statistically significantly different. These measures'  $M_{diff}$  were: outing restriction (-2.86) and time out room (-0.86).

Finally, based on the pretest-posttest results it may be concluded that students (Group 2;  $n = 22$ ) with Disruptive Behavior Disorders and co-occurring reading delimitations with measured reading comprehension scores equal to but not more than one standard deviation below the mean benefited from their 90 day participation in the Boys Town Residential Treatment Center program. Furthermore the reduction in negative behavior occurrences may indicate student readiness for less restrictive placement and interventions for the majority of these youth.

#### **Research Question #7 Conclusion**

Overall, pretest-posttest results indicated beginning behavioral treatment end of second week pretest Program Specific measures for students (Group 3;  $n = 14$ ) with Disruptive Behavior Disorders and no co-occurring reading delimitations with measured reading comprehension scores equal to or greater than one standard deviation above the mean compared to ending behavioral treatment end of eleventh week posttest Program Specific measures were all observed in the direction of lower posttest mean scores and student core behavior improvement. Two of the three Program Specific measures (67%) were also found to be statistically significantly different. These measures'  $M_{diff}$  were: outing restriction (-5.00), unit restriction (-6.64). One of the three Program Specific

measures (33%) was not statistically significantly different. This measures  $M_{diff}$  was: time out room (-0.85).

Finally, based on the pretest-posttest results it may be concluded that students (Group 3;  $n = 14$ ) with Disruptive Behavior Disorders and no co-occurring reading delimitations with measured reading comprehension scores equal to or greater than one standard deviation above the mean benefited from their 90-day participation in the Boys Town Residential Treatment Center program. Furthermore the reduction in negative behavior occurrences may indicate student readiness for less restrictive placement and interventions for the majority of these youth.

### **Research Question #8 Conclusion**

Overall, posttest-posttest between group results indicated students with Disruptive Behavior Disorders and co-occurring reading delimitations and no co-occurring reading delimitations posttest compared to posttest treatment progress checklist for Program Specific measures, equally benefited from their 90-day participation in the Boys Town Residential Treatment Center program. Regardless of the measured reading level differences for the three groups, Program Specific measures equipose was observed at the end of the 90-day treatment period indicating that student behavioral intervention program requirements are independent of reading level and required reading necessary to demonstrate language-based pro-social behavior replacement skills.

### **Discussion**

The results of this study indicated significant improvement for students, (Group 1;  $n = 18$ ) with Disruptive Behavior Disorders and co-occurring reading delimitations with measured reading comprehension scores greater than one standard deviation below the mean in the core

behavior occurrences of arguing, complaining, defiance, not participating in program, off-task behavior, swearing and/or obscenities, and talking excessively, and in program specific measures of outing restriction, time out room, and unit restriction. Also noted with significant improvement was (Group 2;  $n = 22$ ) students with Disruptive Behavior Disorders and co-occurring reading delimitations with measured reading comprehension scores equal to but not more than one standard deviation below the mean in the core behavior occurrences of crying, and, swearing and/or obscenities, and the program specific measure for unit restriction. Finally students (Group 3;  $n = 14$ ) with Disruptive Behavior Disorders and co-occurring reading delimitations and no co-occurring reading delimitations showed significant improvement in the core behavior occurrences of arguing, off-task behavior, and talking excessively, and program specific measures of outing restriction and unit restriction. The results of this study did not indicate a significant difference between students with Disruptive Behavior Disorders and co-occurring reading delimitations and no co-occurring reading delimitations in core behavior occurrences or program specific measures, however, all three groups results are in the direction of lower posttest mean scores and student core behavior improvement for all core behavior occurrence and all program specific measures.

**Implications for practice.** Statistics indicate it has been estimated that as many as 43% to 56% of students with emotional and behavioral disorders drop out or are pushed out of school, a rate that is almost twice that of all students with disabilities (Marder, 1992). There is also evidence to suggest that unlike other disabilities, students with disruptive behavior disorder tend to lag farther behind academically with an ever-widening achievement gap (Nelson et al., 2004). These students perform significantly below norms on standardized achievement tests and lower in math than in reading (Reid et al., 2004). The prevalence of academic difficulties is uncertain.

It is suggested that between 33% and 83% of children with behavioral disorders also have academic difficulties (Reid et al., 2004). Most concerning, however, is that as many as 70% of youths in the juvenile justice system have special emotional and learning disabilities and many of these students have both (Casey & Keilitz, 1990; Murphy, 1986). This is five times the national average of the students served in the public school systems that have emotional or learning disabilities

This study indicates that youth can demonstrate pro-social replacement skills regardless of varying levels of reading delimitations. The results of this study further suggest that when youth with Disruptive Behavior Disorders are provided with intensive pro-social instruction fewer day-to-day undesirable behaviors will occur.

**Implications for policy.** Often a forgotten population in the education system, Gagnon and Leone (2006) reported that approximately 80,000 students with disruptive behavior disorders are being educated each year in residential schools. Boys Town Residential Treatment Center uses a language based pro-socials skills model to help students demonstrate replacement skills. This study indicates that regardless of varying levels of reading delimitations, youth admitted show behavior improvement after participating in 90 days of treatment using the Boys Town Psycho Educational Model.

The study shows evidence of the strength of the Boys Town Psycho Educational Model in the ability of the model to be successful with a wide demographic of youth and the current admissions process for identifying youth that would be best served at the Boys Town Residential Treatment Center does not need to be altered to include reading comprehension as a factor of potential improvement or success during treatment.

**Implications for further research.** The results of this study indicate a need for further research regarding what learning domains should be considered when accepting of a youth into a residential treatment center. Language skills in both the areas of receptive and expressive language (Hill & Coufal, 2005) can potentially have an impact on social skills learning. A great deal can be learned about youth and their potential to learn pro-social skills if areas of language were evaluated before admission to a residential treatment center. Furthermore, a long-term follow-up study could be conducted to determine the lasting effects of the pro-social skills instruction once a student returns to his home and school.



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