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Effects of Social Skills Training on the Interpersonal Behaviors of Elementary School Students in an After-School Program

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Effects of Social Skills Training on the Interpersonal

Behaviors of Elementary School Students

in an After-School Program

by

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A thesis submitted in partial fulfillment
of the requirements for the degree of
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ABSTRACT

Social skills training was investigated in an after-school program setting with four

seven- and eight-year-old males. Two were Hispanic and two were African-American.

Social skills training consisted of a direct instruction, behavioral learning model of

skillstreaming as described by McGinnis & Goldstein (1997). There were four major

components to each social skills training session: (1) an explanation of the skill being

taught; (2) modeling by the researcher of the skill being taught; (3) role play by each of

the participants; and (4) performance feedback regarding the role plays. Sessions lasted

approximately 30 minutes and were held weekly throughout the intervention phases of

the study. The behaviors taught were raising one's hand before leaving the seat, sitting

properly in one's seat, and attending to homework or staff instructions.

Participants also received reinforcement for performance of the social skills in

homework sessions at the after school program, as is consistent with the literature

regarding social skills training. However, the reinforcement and behavior learning (direct

instruction) components were introduced both in combination and at separate times to

experimentally control for the influence of each intervention component. This research

design allows for the investigation into the relative effectiveness of direct instruction versus reinforcement in social skills training.

Experimental control was demonstrated through the use of a multiple baseline across behaviors design. Direct instruction and reinforcement for behaviors were systematically introduced at separate times, keeping some behaviors under baseline condition while moving others into intervention conditions.

Visual analysis of the results indicates that social skills training was effective in improving the three target behaviors of all four students. Direct instruction, reinforcement, and the combination of the two presented together all were effective in improving the target behaviors. Possible intervention effects not related to social skills training may have influenced the behavior of attending.

CHAPTER ONE

Introduction

After School Programs

The education of children is a large task. Schools do much toward that end, but

there is more to be undertaken. After school programs (ASPs) have been one response by

society toward the ever increasingly complex task of education. ASPs have been defined

broadly as "a wide range of program offerings for young people that take place before

school, after school, on weekends, and during the summer and other school breaks"

(Peter, 2002). ASPs vary in their program areas (recreation to academic instruction), time

of operation (from a few hours to six days a week), number of staff (1 to over 50),

theoretical focus (e.g., youth development, academic improvement.), cost of services, and

location (e.g., school-based, church-based.) (Fashola, 2002; McComb & Scott-Little,

2003, National Youth Development Information Center, 2003).

In Hillsborough County, Florida, the Boys and Girls Clubs of Tampa Bay

(BGCTB), Young Men's Christian Association (YMCA), and Hillsborough Country

Recreation and Conservation alone list more than 95 separate after-school program sites

(BGCTB, 2003; YMCA,2003; Hillsborough County Recreation and Conservation, 2003).

In addition, there are 162 public elementary and middle schools in the School District of

Hillsborough County (SDHC), most of which have after-school programs (SDHC, 2003).

There are two primary ways in which ASPs can assist in education. First, ASPs can work

to meet the specific needs (e.g., providing a safe physical environment, offering

opportunities to engage in structured activities, providing positive adult supervision and

guidance of children during after school hours). Second, ASPs can also be tools for

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meeting the broad educational needs of children (e.g., reading, math, social skills) (National Youth Development Information Center, 2003).

Once the school bell rings to end the day, a host of issues confront children and their families. Greater numbers of single-parent families and the need for these single parents to work have left many children without adequate supervision in homes and neighborhoods (Lipsitz, 1984). This trend also leaves children lacking opportunities to engage in activities promoting academic enrichment, socialization, cultural awareness, and so forth. From a safety perspective, adolescents are most likely to be the victims or perpetrators of violent crimes between the after school hours of 2:30 PM and 8:30 PM (Chaiken, 1997). In addition, children who are not supervised during after school hours are more likely to engage in risk-taking behaviors such as alcohol and drug use (Chung, 2000).

Beyond supervision, children have a variety of broad educational needs. In particular in reading, the 2003 National Assessment of Educational Progress (NAEP) Report, documenting evidence toward the Department of Education's "Goals 2000," indicated that only 32% of 4th graders and 32% of 8th graders were at or above proficiency in grade-level reading standards (US Department of Education, 1995). The Florida Department of Education reports that only 60% of 4th graders scored a level three (proficient level) or higher on the Florida Comprehensive Achievement Test (FCAT) reading in 2003. In 8th grade, that number drops to 49%. In math, 54% of 4th graders scored at or above a level three, while 56% of 8th graders scored at or above a level three. In addition, the State of Florida now mandates retention for third grade students who score a Level 1 on the FCAT reading subtest. In 2003, The Florida Department of

Education reported that23% of students scored a Level 1 on the FCAT reading subtest. In the behavioral realm, Nansel et al. (2001) reported that more 16% of U.S. school children said they had been bullied in the current term. In addition, 6% said they had been both bullied themselves and bullied other children, suggesting a strong need for behavioral support of children. After school programs have the propensity to address some of these broad educational needs and to foster more positive educational outcomes for students who participate in them (Fashola, 2002).

The past decade has brought an era of accountability to educational institutions. The passage of No Child Left Behind (NCLB) is but one example of this focus on educational outcomes and the efficacy of the schooling process. High stakes testing, the national focus on reading (e.g., Reading First, NCLB), and school grading are all influences by the school accountability movement. Schools are asked to meet higher expectations, and to show more evidence that these expectations have been met (FDOE, 2004; SDHC, 2004). School districts have been turning to ASPs to help address some of these needs. Over the last two years, over $25.5 million was awarded to school districts and other after school program organizations in Florida through the 21st Century Community Learning Centers program alone, all for after school programs.

The Efficacy of After School Programs

Research evaluating the effectiveness of ASPs in meeting the broad educational needs discussed in the last section has been mixed (Barker, 1998; U.S. Department of Education, 2003). For example, the 21st Century Community Learning Centers (CCLC) program, funded through the federal government, had a $1 billion budget in 2002. It funds about 7,500 ASPs in 1,400 communities. The program's "Summary of First Year

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Findings" concluded that reading test scores, as well as grades in most subjects, were not higher among program participants. In addition, participating ASPs did not increase students' feelings of safety during after school hours. Fewer than 38% of middle school students reported that the ASP was a good place to get homework accomplished (US Department of Education, 2003). Possible reasons for the lack of effectiveness include insufficient accountability, participation rates, level of academic focus, and poor generalization of skills taught in after school programs to the school context.

There were successful individual programs within the 21st CCLC program. Research from several successful programs in Kansas yielded a list of factors that contributed to success: low staff:child ratios, constant supervision of children, support for family involvement, communication between staff, families, and schools, integration into the community, sufficient indoor and outdoor space, staff/child collaboration with activity planning, established policies and procedures regarding safety and health, qualified and trained staff, staff support, effective organizational management, and policies and procedures that are responsive to the needs of children and families.

Other studies also indicate positive results. For example, a 10-year study of "LA's BEST" after school enrichment program examined program participants in the second through fifth grades during the 1993-1994 school year, and followed them through the 1997-1998 school year. These students were compared with non-participant peers using the *Comprehensive Test of Basic Skills* or the *Stanford-9 Achievement Test* in reading, mathematics, and language arts. The authors reported that higher participation in the ASP was correlated with higher scores on these measures. The authors also reported that

greater program participation was correlated with higher attendance rates at school (Huang, Gribbons, Sung Kim, Lee, & Baker, 2000).

Baenen, Lindblad, and Yaman (2002) investigated an extended learning program in Wake County, North Carolina. Children in grades K-12 were given extra academic instruction by either their own teacher, another teacher, or a volunteer. This instruction occurred after school and on Saturdays (year round schools offered the services during intersessions). Results indicated that students who participated in the program in all grades except grade 3 showed significantly greater academic improvement than students who did not participate. These results suggest that after school programs can provide extra academic engaged time (AET), and that this additional AET can result in increased academic performance.

Barker (1998) examined the effects of a highly specialized ASP for juvenile delinquents. Compared with a control group, there were more than 50% fewer criminal convictions among program participants. On a self-report measure of aggressive behavior, self-discipline, and social control, participants evidenced improvement in self-control. Similarly, Lamare (1997) cited teachers' reports that ASP participants had more positive social skills.

One finding consistent throughout the research is that ASPs are quite diverse— from the activities offered to the data supporting their effectiveness. Given this variability, the quality of specific strategies implemented in, rather than the mere existence of, ASPs is of importance. There are numerous educational and psychological strategies (e.g., assessments, interventions, modifications) that have been found to be

effective in schools for a wide range of behaviors (Shinn, 2002). However, these strategies have seldom been studied in ASP settings.

Social Skills Training

A child's ability to interact successfully with adults and peers is critical (Gresham & Lemanek, 1983). For example, children who experience less acceptance by their peers are more likely to experience learning and adjustment problems both in and out of school (Hughes & Sullivan, 1988). Social skills training is a direct attempt to build a child's success in interacting with adults and peers. While some ASPs have conducted activities in such areas as "character and leadership" and "health and life skills" training (BGCA, 2003), and some evaluations of ASPs include measures of social behaviors (Lamare, 1997), an extensive literature review has revealed no studies examining the explicit use and impact of a formal social skills training program in an ASP.

Social skills have been defined as learned behaviors that are socially acceptable and which enable an individual to interact successfully with others (Gresham & Elliott, 1984). The presence of social skills has been shown to be connected with a variety of other significant educational variables. For example, the presence of social skills influences both the quantity and quality of academic engaged time in educational settings (DiPerna, Volpe, & Elliot, 2001).

Social skills can be learned naturally throughout the course of child and adolescent development; however, several factors warrant the explicit teaching of social skills. Societal changes, for example social mobility and the reduced role of the church, have made it less likely that social skills will be taught in a child's home or community environment. Children also spend a significant amount of time engaged in activities that

do not directly teach real-life social skills, such as watching television. Given these and other factors, the explicit instruction of social skills in school settings has, in many cases, become a necessity (Cartledge & Milburn, 1986).

Several methods for teaching social skills have been developed. McGinnis and Goldstein (1997) describe a "skillstreaming" approach, which focuses on the following four direction instruction principles of learning: modeling, role-playing, feedback, and transfer. The authors approach the instruction of social skills from a skill-deficit model, assuming that the child lacks certain behavioral skills which can be directly taught. Reinforcement and behavior strengthening are the primary tools used for increasing social skills, rather than punishment for inappropriate behaviors. While the authors discuss how skillstreaming can increase self-esteem, the intervention does not focus on affect, but rather on skills (McGinnis & Goldstein, 1997).

Theoretical Framework

Social skills training stems from Bandura's (1977) social learning theory and Goldstein's (1981) psychological skill training. Bandura (1977) described how individuals vicariously learn social behavior through modeling of behavior and its reinforcement, and imitating the observed behavior. Goldstein's psychological skill training (1981) extended contemporary psychological practice to include the direct instruction of psychological skills. Other schools of thought assumed that individuals already possessed these skills, but that the performance of these skills needed to be increased. McGinnis and Goldstein (1997) expanded a social skills training curriculum from this concept of psychological skill training.

Purpose of this Study

No studies have been found that have evaluated the "Stop & Think" (or any other) social skills training program in an ASP setting. The purpose of this study, therefore, is to examine the effectiveness of the "Stop and Think" social skills training program on the interpersonal behaviors of elementary school-age children in an ASP setting. This study will contribute not only to the social skills training literature base, but also to the ASP literature in general. The educational significance of this study is its extension of the social skills research to the after school program setting. The number of after school programs is increasing (BGCA, 2003). Research investigating the effectiveness of practices within these programs, then, will become more important, especially with the increased focus on the use of evidence-based practices in school and school-related settings..

Research Questions

The research question in this study is as follows:

1. In an after-school program setting, what is the relationship between social skills training and positive social behaviors among elementary school age children?

Hypotheses

1. The direct instruction component of social skills training will result in a significant increase in positive social behaviors.

2. The reinforcement component of social skills training will result in a significant increase in positive social behaviors.

3. When combined, the direct instruction and reinforcement components of social skills training will produce a significant increase in positive social behaviors.v

Definitions

After School Program: The National Institute on Out-of-School Time defines out-of-school time programs as "encompassing a wide range of program offering for young people that take place before school, after school, on weekends, and during the summer and other school

breaks" (Peter, 2002). More detailed components of ASPs as discussed in the literature will be presented in the next section.

Social Skills: Social skills have been discussed as learned behaviors that are socially acceptable and which enable an individual to interact successfully with others (Gresham & Elliott, 1984). Ladd and Mize (1983) described social skills as the purposeful organization of thinking and behavior to achieve interpersonal goals.

Social Skills Training: Social skills training often refers to direct instruction of certain psychological skills which enable positive results in social situations (McGinnis & Goldstein, 1997).

CHAPTER TWO

Literature Review

Overview

This chapter will present a review of the literature of afterschool programs (ASPs) and social skills training. First, the general characteristics of ASPs will be discussed and related to ASPs as an educational initiative. Next, the research regarding efficacy and quality of ASPs presented. Finally, social learning theory and psychological skills training will introduced. Social skills training, an intervention extended from these theories, will then be explored.

ASPs

ASPs vary on several dimensions. A few of these dimensions include:

- Scope of activities offered: some ASPs focus on one particular activity (e.g., reading), whereas others offer a range of activities, including recreation, arts and crafts, fields trips, and so forth. (Fashola, 2002; McComb & Scott-Little, 2003, National Youth Development Information Center, 2003).

- Time in operation: some ASPs run for only a brief time after school, whereas some are open before school, until late in the evening, and on weekends (Fashola, 2002; McComb & Scott-Little, 2003, National Youth Development Information Center, 2003).

- Staff: from as few as 1 to more than 50 (Fashola, 2002; McComb & Scott-Little, 2003, National Youth Development Information Center, 2003).

- Theoretical focus: "youth development" focus (views such as "focusing on the positive," "proactive," "mobilizing the public as well as all youth-serving

organizations in a community," "viewing youth as resources"); educational focus (academic improvement); other, specific skill focus (e.g., career planning, job placement) (Fashola, 2002; McComb & Scott-Little, 2003, National Youth Development Information Center, 2003).

- Cost of services: from free to weekly fees exceeding $100 (Fashola, 2002; McComb & Scott-Little, 2003, National Youth Development Information Center, 2003).

- Location: school-based (e.g., public school ASPs), private building (e.g., many Boys and Girls Clubs), public recreation centers, churches, etc. (Fashola, 2002; McComb & Scott-Little, 2003, National Youth Development Information Center, 2003).

ASPs in the Educational Context

Schools in Florida are being held increasingly more accountable for educating their students (FDOE, 2004). First, educational expectations are increasing, especially in light of the No Child Left Behind (NCLB) Legislation (US Department of Education, 2004). Second, state and federal departments of education are mandating that schools collect more data to demonstrate that they are meeting these expectations (FDOE, 2004; US Department of Education, 2004).

As a result of this increase in educational accountability, schools are being provided with a variety of evidence-based ideas and resources proven to increase educational performance (FDOE, 2004). One variable that has consistently been demonstrated to improve student performance is the amount of academic engaged time (AET) schools offer students (DiPerna, Volpe, & Elliot, 2001). Many schools have

shifted their schedules to include more time devoted to core academic areas, with less

time being allotted to non-instructional time (SDHC, 2003). In addition, many schools

have begun to view afterschool hours as additional opportunities to provide this increased

academic time (Chung, 2000; Fashola, 2002; McComb & Scott-Little, 2003).

Afterschool Programs as an Educational Tool

As described before, ASPs vary widely in their characteristics. A plethora of

research also has suggested that ASPs vary widely in their effectiveness to improve the

academic success of their participants. (Chung, 2000; Fashola, 2002; McComb & Scott-

Little, 2003; US Department of Education, 2003). In light of higher standards of

accountability, if schools are to use ASPs as a venue for additional AET, ASPs must be

able to demonstrate that they both offer additional AET and can relate that additional

AET to increased student performance.

The literature supporting the efficacy of ASPs has been mixed (Barker, 1998;

U.S. Department of Education, 2003). The 21st Century Community Learning Centers

(CCLC) program, for example, funded through the federal government, had a $1 billion

budget in 2002. It funded about 7,500 ASPs in 1,400 communities. The program's

"Summary of First Year Findings" concluded that reading test scores, as well as grades in

most subjects, were not higher among program participants. In addition, participating

ASPs did not increase students' feelings of safety during after school hours. Fewer than

38% of middle school students reported that the ASP was a good place to get homework

accomplished (US Department of Education, 2003). Possible reasons for the lack of

effectiveness include insufficient accountability, participation rates, level of academic

focus, and poor generalization of skills taught in after school programs to the school context.

The 21st CCLC federal funds are filtered through state level offices. Many of these state offices (and even some local level funding recipients) conduct their own evaluations of 21st CCLC programs. The Massachusetts Department of Education reports more positive results of their programs (Resnick, 2004). More than 12,800 children were reportedly served statewide. More than 4,300 of these children were tested to measure the efficacy of the after-school programs. Resnick reports that 61-100% of the students tested demonstrated statistically significant gains in reading, language, and math depending on the measures given.

The Boys and Girls Club of Broward County partnered with the School Board of Broward County to provide 304 children an opportunity to participate in the Youth Educational Success (YES) program (Albright, 2002). In its third year of operation, an evaluation was conducted indicating an improvement in school attendance with children who attended the YES program at least 50% of the time. Children in a comparison group exhibited a decline in school attendance. However, there were no significant gains in reading scores, math scores, or a NRT test used in relation to the comparison group. This evaluation also included a program-school communication component in which club staff were expected to solicit a certain number of forms used for communication as to academic needs. None of the clubs met this minimum requirement, with two clubs not collecting any forms.

The San Francisco Beacon Initiative, modeled after the New York Beacons, was begun in 1994 with the mission of transforming urban schools in low-income

neighborhoods into centers of community action, including before and after school programs. Each site was well funded, with consistent staff and organizational structure common among all five of the initial programs. An evaluation by Walker and Arbreton (2004) compared participants and non-participants on school grades and scores obtained from the Stanford Achievement Test – Ninth Edition (SAT-9). Results demonstrated no differences between participants and non-participants. The authors suggest two reasons for these results. First, while there were academic components in the program, these components were not sufficiently rigorous, consistently primarily of homework help and general "educational" activities. Second, while attendance in the program was consistent throughout the study, children did not attend sufficiently on a daily basis to benefit from the program's results. These hypotheses have been supported elsewhere in the literature as significantly influencing the educational outcomes in other after-school programs.

Wahlstrom, Sheldon, Anderson, and Zorka (2001) studied a specific 21st CCLC Project in Minnesota. The program targeted both students with low academic achievement and students who exhibited at least one of several risk factors (e.g., poverty). The project was implemented across eight school sites in St. Paul, MN. Overall, no gains in reading or math test scores (using the Metropolitan Achievement Test – 7th Ed.) among program participants were present when compared with children who did not participate. In addition, there was no difference between participants and non-participants in their school grades. School attendance for both groups was high – no improvement was achieved for either group. Participants did experience a maintenance of school behavioral referral rates compared with non-participants.

Other studies include more supportive results. For example, a 10-year study of "LA's BEST" after school enrichment program examined program participants in the second through fifth grades during the 1993-1994 school year, and followed them through the 1997-1998 school year. These students were compared with non-participant peers using the *Comprehensive Test of Basic Skills* or the *Stanford-9 Achievement Test* in reading, mathematics, and language arts. The authors reported that higher participation in the ASP was correlated with higher scores on these measures. The authors also reported that greater program participation was correlated with higher attendance rates at school (Huang, Gribbons, Sung Kim, Lee, & Baker, 2000).

Bissell, Dugan, Ford-Johnson, Jones, Ashurst, J. (2002) evaluated the YS-CARE after school program in California, implemented in 28 elementary schools. There were 567 YS-CARE children who participated in the study, as well as 350 matched control participants who did not participate. Dependent measures included the SAT-9 Reading and Math and a local reading measure. When compared to national norms on the SAT-9 Reading and local norms on the local reading measure, program participants made statistically significant improvements. However, while there were gains on these measures when compared with the control group, these gains were not statistically significant.

Baker and Witt (1996) investigated two after school programs in Austin Texas using both academic and behavioral dependent measures. The researchers included both after school participants and control group of children who did not participate. Participants in the after school programs had statistically significantly higher post-test scores in math, science, reading, and language. The degree of participation in the

programs was included as variable, and was statistically significantly correlated with greater academic improvement than those children who participated less in the program. On the behavioral measures (Behavior Rating Profile – Second Edition), there were no differences between participants and non-participants. A measure of self-esteem indicated significantly higher scores for participants. Finally, both teachers and parents rated the program as effective, with many parents (80%) remarking that they would enroll their children again the program.

The Transition to Success Pilot Project in Boston, MA was conducted to investigate the effectiveness of remedial tutoring along with other activities in one of six Boston after-school programs (Massachusetts 2020, 2004). There were 116 students who participated in the after-school program. The researchers included a control group of Boston Public Schools students. Results indicated that those participating in the program were statistically significantly more likely to move on to the next grade than those in the control group. In addition, younger participants, and children who demonstrated higher attendance rates in the program, were more likely to show increased standardized test scores. A variety of survey and qualitative measures evidenced the programs validity with its constituency, with many parents and teachers finding the program to be successful in areas such as math, reading, and organizational skills. In addition, participants reported increased effort at school, carrying over from their experience with the after school program.

The TASC program in New York City has been funded since 1991 and serves predominantly low-income, minority individuals (Welsch, Russell, Williams, Reisner, & White, 2002). When compared with non-participants, children in these programs showed

statistically significant increases in achievement in only select areas. Children who participated in the program for at least one year showed statistically significant gains in math. Children who participated for at least two years did not show substantive achievement increases, nor did children who participated for three years. There seems to be a ceiling effect, then, on the effects of participation in this after-school program. No differences in the reading abilities of participants and non-participants were found.

Nance, Moore, Lewis (2000) conducted a study with seven elementary schools participating in a 21st CCLC grant in St. Louis. There were three general intervention foci of the after school programs: (1) academic tutoring, (2) recreational activities, and (3) social/behavioral issues. The authors analyzed pre and post math exam scores from 278 participants. Results indicated a statistically significant increase in math scores with students participating in the program.

Barker (1998) examined the effects of a highly specialized ASP for juvenile delinquents. Compared with a control group, there were more than 50% fewer criminal convictions among program participants. On a self-report measure of aggressive behavior, self-discipline, and social control, participants evidenced improvement in self-control. Similarly, Lamare (1997) cited teachers reports that ASP participants had more positive social skills.

The Foundations After-School Enrichment Program operated in 19 different schools in three different states (Klein & Bolus, 2002). Staff planned activities that promoted academic, physical, and emotional development. Staff ratios were low (10:1) and all teachers and coordinators had college degrees. The researchers used the CTB/McGraw-Hill Terra Nova reading/language arts and mathematics tests both at the

beginning of the school year and at the end of the school year. Results indicated that post-test scores were statistically significantly higher for those participating in the after-school program. However, the post-test scores were only slightly above what should have been expected compared to the national normative sample. These results suggest that while this after-school program did not lead to significant gains when compared with a national normative sample, it at least did help participants achieve normal academic progress.

Blanton, Mooreman, and Zimmerman (year unknown) studied the effects of an alternative academic improvement program in an afterschool program component called the Fifth Dimension. The goal of this program was to increase academic ability by offering activities that promoted children's development as active learners in their environment. There were 52 children who participated in the study. The sample was divided into two for a experimental and control group. Statistical analysis showed no pre-test score differences on a measure of following written directions, but there was a statistically significant post-test difference on the same measure. While no reliability or validity estimates are given for this measure, the results do indicate an increased ability of program participants at least to perform better on the specific dependent measure of the evaluation. In a follow-up study, Blanton, Moorman, Hayes & Warner (1997) investigated the effects of participation in the Fifth Dimension on scores on the North Carolina End-of-Grade Test, published by the North Carolina Department of Public Instruction. Fifth Dimension participants demonstrated statistically significantly higher performance on the test than the control group.

Social Skills Training

There are numerous ways to increase Academic Engaged Time. One way is to improve social behavior in school, including such behaviors as self-control, ignoring distractions, paying attention, and following directions (DiPerna, Volpe, & Elliot, 2001). The quality and amount of academic engaged time (AET), then, is influenced by these various academic and social behaviors, including social skills (DiPerna, Volpe, & Elliot, 2001).

Bandura (1977) described the processes by which individuals observe models of particular behaviors and vicariously learn these behaviors. Applied to social skills, children often grow up observing adults and peers in their natural environment demonstrating various social skills. Through observation of the performance and reinforcement of these behaviors by others, as well as imitation of these models, children learn many necessary social skills (Bandura, 1977).

Societal changes, including social mobility and the changing role of the church, have made it less likely that social skills will be taught in a child's natural environment (home, church, neighborhood, etc.). Children also spend an increasing amount of time engaged in activities, such as watching television, that may not model desirable social skills. Given these and other factors, the explicit instruction of social skills has, in many cases, become a necessity (Cartledge & Milburn, 1986).

The roots of social skills training can be found in the psychological skill training movement in the 1970s (Goldstein, 1981). The psychological skill training movement developed as a response to the lack of attention to teaching behaviors. All other psychological paradigms of the time had as a basic assumption the inclusion of psychological skills in the individual's behavioral repertoire. The psychological skills

movement, on the other hand, took the perspective that individuals may not have certain behaviors in their repertoire. The focus of interventions, then, was to teach these behaviors.

Using the theoretical background of psychological skill training, McGinnis and Goldstein (1997) describe a process for explicitly teaching social skills. They make use of the principles of social learning theory (Bandura, 1997), yet make the process more explicit. Each social skill is taught in a separate lesson, and includes several components. The skill is first introduced, explained, and discussed. Then, the skills is modeled by an adult facilitator. Next, children get the opportunity to role play these skills. Finally, students receive performance feedback regarding their role plays (McGinnis & Goldstein, 1997).

In addition to the explicit instruction of social skills, McGinnis and Goldstein (1997) also discuss ways in which prosocial behaviors can be generalized to times and settings outside the training sessions. Reinforcement schedules for the performance of the appropriate skills, antecedent stimuli prompting the performance of social skills, and review sessions are examples of some of the strategies used to promote generalization.

Social Skills Training Effectiveness

There are numerous studies which support the effectiveness of SST across a variety of conditions. Only one article was found describing the effects of an after school program on social skills training (Riley, 1994). This evaluation did not empirically measure social skills, nor did it include a formal social skills training program. It did, however, qualitatively investigate parent and teacher perceptions as to kids' prosocial

interactions with each other. Overall, the evaluation includes positive remarks, indicating positive impacts on children's social skills.

Other studies, while not in an after school program setting, have more directly supported social skills training programs. Ang and Hughes (2001) conducted a meta-analysis of 38 studies involving SST with children described as antisocial. An overall effect size of .62 was found, indicating a statistically significant advantage to those receiving SST. The researchers also examined the difference between SST groups composed of all children labeled as deviant and groups composed of both deviant and model peers. A statistically significant difference was found between the groups, with mixed groups yielding an average effect size of .15 higher than all-deviant groups. In addition, follow-up data suggest that the effects of SST on mixed groups maintained and generalized more than with the all-deviant groups. With all groups, though, SST was shown to be an effective intervention.

Beelmann, Pfingsten, and Losel (1994) conducted a meta-analysis of social competence training, involving SST. Overall, they found social competence training to be an effective intervention, at least in the short term. However, generalization and maintenance components of the studies included did not support long-term effectiveness. In addition, effects were more pronounced for specific outcome variables (e.g., direct observation of the target skills) as opposed to general outcome variables (e.g., measures of broad concepts such as "social competence").

Social Skills Training with Upper Elementary School Students (Grades 3-5)

SST has been conducted with all age groups, from very young children to adults. Numerous studies, however, have concentrated on elementary-aged students. Berler,

Gross, and Drabman (1982) studied the effects of social skills training on three children ages 8 – 10 who were labeled as learning disabled. Sessions began with an initial explanation of the social skill. Children were presented with a variety of scenes to role play. Instructors and peers provided corrective feedback immediately after each role play. Several role plays were videotaped and immediately shown to the students along with feedback. Assertive skills of eye contact and appropriate verbal content in reference to certain social situations were the targeted social skills.

Dependent measures (role plays, behavioral observations, and peer sociometric ratings) indicated that the participants' rates of behavior improved significantly during the course of treatment when measured in the analogue treatment settings. However, the researchers failed to find a generalization of the behaviors to other treatment settings. Results also failed to maintain during the maintenance and follow-up data collection periods. The authors mention the lack of treatment integrity by teachers in providing prompts and feedback to children in the natural settings. These results demonstrate the importance of programming for generalization and ensuring treatment integrity when conducting social skills training.

Elardo and Caldwell (1979) conducted SST with 34 students in grades four and five in an inner-city elementary school. Homeroom teachers led discussions around a variety of topics related to social skills, such as children's understanding of other children's thoughts and feelings. Teachers presented various social situations and asked participants to discuss potential ways of handling the problems presented in the situations. Role plays were frequently conducted, although the researchers did not specify

how many times. Participants receiving the intervention showed more gains in dependent measures of social skills than those in the control group.

Yu, Harris, Solovitz, and Franklin (1986) conducted a social problem-solving training with 35 boys ages seven to 12. Social problem-solving training is a category of interventions designed to improve an individual's cognitive skills in processing and generating solutions to a variety of social problems. Social problem-solving training is often a component of social skills training, but can also be conducted separately. The purpose of this particular training was to both decrease antisocial behaviors and increase corresponding prosocial behaviors. Activities involved in the program included role playing, group discussion, and other supplemental activities. Children were presented with topics such as understanding feelings, recognizing problems, generating problem solutions, and implementing problem solutions. Parents were encouraged to use aspects of the program at home. The researchers found an improvement in social-cognitive skills, a reduction in the targeted behavior problems, and an increase in selected prosocial skills compared with the control group.

Bierman and Furman (1984) investigated three different types of social skills training using peer acceptance as the dependent variable. Fifty-six 5th and 6th grade students participated in the study. The first type involved each child in the group receiving individual coaching about one of three target conversational skill areas. Over the course of training, participants in this group role played and received feedback on their performance. The second type, focusing on the same skills, involved a group of three students. These children also engaged in the same activities as the first group, but received no feedback, coaching, or reinforcement for any particular skill. A third type

involved children working in groups, but also receiving coaching, feedback, and reinforcement.

Results suggest that simply spending time engaging with peers does not produce meaningful changes in prosocial competencies. Both groups receiving coaching showed increases in prosocial skills that were sustained at follow-up (six weeks). The intervention involving children meeting with the group but receiving no coaching showed temporary improvements in status and social interaction, but no increase in prosocial skills like the children receiving coaching.

Parent ratings were included in a study by Pepler, King, Craig, Byrd, and Bream (1995). Teachers nominated students they perceived as aggressive. Seventy-four aggressive children (63 boys) received direct social skills training in nine specific skills. Teacher ratings upon conclusion of the intervention revealed a statistically significant difference between those receiving intervention and those who did not. These results maintained over a nine-month period, although they weakened over time. Parent and peer ratings, however, showed little difference between the intervention and control groups.

Nelson and Carson (1988) conducted two studies in which they used a variety of techniques, including self-monitoring, discussion, paired work on assignments, and games, to teach social problem-solving skills. Participants were third- and fourth-grade children. Outcome measures fell into two categories: (1) measurement of social problem-solving skills, and (2) measurement of behavioral skills thought to be related to social problem-solving skill. Results in both studies revealed that participants receiving the interventions did make gains in social-problem solving abilities. However, participants in both studies showed no gains in teacher ratings of behavioral outcome variables. The

acquisition of greater social-problem solving skills alone was not found to be related to changes in classroom behavior as measured by teachers. These results were reported as consistent with previous studies. The authors conclude that increased social-problem solving skills do not increase social skills. However, it is possible that social-problem solving skills may be a helpful or even necessary, but not sufficient, component of an intervention package that would effectively increase social problem skills.

The effects of positive reinforcement and punishment on social skill acquisition and problem behaviors were investigated by Bierman, Miller, and Stabb (1987). Children in grades 1-3 were randomly assigned to one of four conditions: (1) positive reinforcement for targeted prosocial skills, (2) prohibition with a response-cost system for targeted antisocial behaviors, (3) a combination of the first two, and (4) a control group. The same activities promoting prosocial peer interaction across three different categories of skills (questioning others, helping, and sharing) were used in all intervention groups. Participants in the positive reinforcement group were instructed in the targeted prosocial skills, as well as reinforced for these behaviors using a token economy. In the response-cost group, only general reinforcement for positive peer interaction was given. In addition, participants lost the ability to earn this general reinforcement if certain antisocial behaviors were observed.

The combination of the reinforcement with the response-cost was indicated as the most effective intervention. The response-cost intervention alone produced immediate declines in antisocial behavior. However, the effects did not maintain, and no corresponding increases in prosocial behavior were observed. The positive reinforcement intervention alone produced sustained increase in prosocial behavior, but these behaviors

did not stabilize until after the follow-up observations. The combination of both interventions resulted in the additive benefits of each intervention.

Tanner and Holliman (1988) conducted assertiveness SST in order to increase cooperative behaviors and decrease aggressive behaviors. Participants included 24 second- and third-grade students. Behavioral observations were conducted across a variety of settings. Teacher rating forms were also administered. Results moderately support the effectiveness of the program, with some data to suggest that cooperative behaviors increased and aggressive behaviors decreased.

Social Skills Training in Small Groups

The number of participants receiving social skills training at one time varies by study. One on end, some researchers have conducted social skills training with one child at a time (Cooke & Apolloni, 1976). On the other end, others have instructed entire classrooms during the same session (Nelson & Carson, 1998). The number of participants receiving the intervention at one time affects a variety of variables in a study. The small group is a frequently used condition in the literature.

For example, in a study conducted by Vaughn & Lancelotta (1990), the effects of pairing low-status peers with high-status peers was investigated. This study originated from the theory that simply increasing prosocial behaviors is not sufficient in improving the acceptance rates of low-status peers. Results suggest that the type of interpersonal interaction provided to participants did not improve the status of participants receiving the intervention. The researchers point to already high gains in outcome variables attributable to other intervention components. In addition, the authors hypothesize that the nature of the interactions between the low-status and high-status peers was not

effective. They suggest that different, and more intense, types of interaction may produce increases in status.

By conducting social skills training in using the small group condition, the researchers provided children with this opportunity for more intense interpersonal interaction. This type of interaction would likely not have been available in either a training condition of one student or an entire classroom of students.

Coats (1979) employed a cognitive self-instruction technique with sixteen third-grade boys. A small group condition was also used in this study (four students per group). Participants were taught to verbally guide themselves through a variety of tasks. First, simple, non-social tasks were the target of intervention. In the final phase, the self-instruction skills were applied to social situations. Verbal self-instruction was overt at first, then faded to covert. The researchers discovered that the intervention was successful in decreasing deviant behaviors, but was less successful in increasing certain prosocial behavior. Thus, increased self-control by the participants was achieved.

Vitaro and Tremblay (1994) held social skills training sessions as part of a larger prevention package also offering parent training programs. Participants were 46 boys (ages 8-9). The social skills groups were comprised of 4-6 boys per group. For the parent training component, parents were trained in a variety of basic parenting techniques, ranging from appropriate use of time-out to using a problem-solving process during family conflict. Children participated in social skills training groups at their school. During the first year, nine prosocial skill were selected as the targets for intervention. During the second year, self-control and problem-solving skills became the targets.

The researchers collected data for three years. Those participating in the program showed significant gains at the end of the data collection period. Specifically, participants in the intervention group were rated as less aggressive by teachers (who were blind to research group status). Additionally, participants associated with less deviant peers, as measured by self-reports of delinquent conduct by participants' self-identified friends.

Small groups were also used by Dubow, Huesmann, and Eron (1987). Participants receiving intervention in this study received cognitive social-problem solving training, behavioral social skills training, or a combination of the two. In addition, there was a control group which received the same amount of attention from adults and peers, and participated in similar activities. The most effective intervention type was the combination of behavioral social skills training with social problem-solving training. However, these results did not maintain at the six-month follow-up. The researchers point to the need for more long-term programs and support for generalization. Finally, unlike most studies, the control group not only improved on measures of prosocial competencies, but demonstrated sustained effects at the six-month follow-up. Dubow, Huesmann, and Eron suggest that children with antisocial behavioral patterns may respond more favorably to free play settings rather than instructional settings.

Social Skills Training Using Modeling and Role Playing

The literature describes many techniques for teaching social skills. Modeling and role playing are two specific strategies, frequently used in combination, to teach social skills. The use of modeling stems from social learning theory, positing that children can learn behaviors vicariously (Bandura, 1977). The use of role playing follows from a behavioral, direct instruction approach emphasizing repetitive practice of behaviors with

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explicit instruction (Cooper, Heron, & Heward, 1987). Many studies also make use of additional strategies such as board games, contingent reinforcement, or group discussion. However, modeling and role playing are the central and most commonly used components in many studies evaluated.

Kendall and Zupan (1981) used modeling and role playing along with a self-instruction and response-cost procedure. They gave the same interventions to children in two different groups. One group consisted of children receiving the intervention in a small group format. The other group involved children receiving the intervention individually. A third "nonspecific treatment" group, originally created as a control group (but receiving some level of treatment), was also established. Sessions followed a specific format, teaching and fading different psychoeducational tasks depending on the session. While all three groups evidenced improvement, the treatment groups, who received the modeling and role playing techniques (in addition to the self-instruction and response-cost procedures), showed statistically significantly higher scores on certain measures of generalization.

Forty-one children, ages seven through 12, were the participants in a study by Kettlewell and Kausch (1983). Children who displayed aggressive behavior during the first week of camp were selected as participants. Four weeks of treatment, including modeling and role playing, as well as a self-instruction technique, were used with the children in small groups at a summer day camp. Children also discussed situations in which they had applied the learned techniques in between sessions.

The 12 outcome measures (ranging from self-report forms to analogue measures of behavioral responses requiring self-control), when examined together, support the

effectiveness of the social skills training. However, uniform performance differences between the intervention and control groups were not observed. Several of the measures had fatal limitations, and others indicated no difference between the two groups. Overall, however, the data supports the effectiveness of modeling, role playing, and self-instruction in improving the behavior of aggressive children.

Lochman, Lampron, Gemmer, Harris, and Wyckoff (1989) investigated the use of a package of interventions including modeling and role playing with 32 boys (average age=11.0). The intervention components were contingent reinforcement of rules, self-instruction, social problem-solving training, activities encouraging social perspective-taking, videotaped models, discussion, and role play. Another treatment group received these interventions as well as teacher consultation. This intervention component involved six hours of training in over the course of four to six meetings. Each meeting had several teachers, and was facilitated by the social skills training leaders.

Behavioral observations were conducted to measure off- and on-task behavior, specifying for the type of off-task behavior. In addition, teachers completed rating forms relating to levels of aggression of the participants. Results indicated that the social skills treatments improved scores in all dependent measures. However, there was no statistically significant difference between the group receiving additional teacher consultation and the group that did not receive this added component. The authors concluded that the specific type of consultation (dialoguing and problem-solving training) was ineffective. It is also possible that the quality of the social skills component made the additional teacher consultation unnecessary.

Modeling, role playing, and feedback were the central components in a social skills study by Mize and Ladd (1990). Eighteen children were taught four targeted social skills across an eight-week period. Hand puppets were used as models. Following the models, children were asked to use the models to role play. Then, the participants role played the targeted behavior with their partner. These role plays were videotaped, and were then shown to the participants with corrective feedback. To promote generalization, both the instructors and other adults spent time in the classrooms with the participants encouraging the use of the skills in the natural environment.

The researchers were interested in measuring both the ability of participants to verbalize social-problem solving skills, as well participants' skill-related behavior in the natural environment. Results did not support the ability of children to verbally relate the content of the social skills training. The authors suggest that these skills might not have been operationally defined. In addition, the authors hypothesize that the participants were not effectively trained in this skill. Children did, however, significantly increase the number of targeted prosocial skills performed in their natural classroom setting, suggesting that the interventions were effective.

Spence and Spence (1980) investigated the use of modeling and role playing, in combination with instructions, discussion, social reinforcement, and homework. Participants included 44 adolescent males who were randomly assigned to the social skills training. There were 12 targeted skills, selected based on deficiencies found during initial assessment. In addition to this intervention group, there was an attention-placebo group as well as a control group. The attention-placebo group received the same amount

of time and attention as the intervention group, but no social skills training. The control group received nothing.

Only measures of locus of control and self-esteem were used as dependent measures. There were no behavior observations or any other direct measure of the skills that were taught during training. Dependent measures indicated that increases in locus of control were statistically significantly higher in the intervention group than in both the attention and control groups. However, participants in both the intervention group and the attention group improved on the self-esteem measures, indicating that social skills training was not necessary to improve children's self-esteem. Both dependent measures, though, demonstrated a lack of maintenance of any effects for any group. In fact, losses were noted in some case. If the researchers had included dependent measures that directly measured the dimensions of the target behaviors, more differences between the groups might have been noticed.

Social Skills Training with Urban, At-Risk, or Minority Children

Many social skills training studies analyzed included primarily participants from majority, middle-income, or suburban populations. The results of these studies do not necessarily generalize to children from difference geographical, socioeconomic, or racial backgrounds. There were several studies found, however, which did include at least a substantial number of participants with one or more of these background characteristics.

Huey and Rank (1984) studied the effects of an assertiveness training program with 48 Black males designated as aggressive. Participants were put into two groups – one receiving the intervention from a professional counselor, the other receiving the

intervention from a peer counselor. Both groups of counselors received the exact training, and were told to follow the treatment regimen closely.

Results indicate that the assertiveness training was effective with the participants. However, there was no statistically significant distinction between those receiving the intervention from the peer counselors and those receiving it from the professional counselors. There are two possible indications of these results. The first is the strength of the intervention was in the design of the assertiveness training materials, not in the skills of those presenting the materials. The second possible indication is that the skills of the counselors were important, but that the training afforded to the peer counselors was sufficient to instill these skills.

Fifty-three percent of the sample in Lochman, Burch, Curry, and Lampron (1984) was African-American. Anger-coping and goal-setting were the two specific social skill sets defined as intervention components. Four groups were created – one each for anger-coping and goal-setting, one combining the two, and a fourth receiving no intervention. There were 76 boys aged 9-12 involved in the study. Children in the anger-coping group demonstrated significant reductions in aggressive off-task and disruptive behaviors. The addition of the goal-setting piece resulted in greater transfer of the results to the classroom setting. Teacher and parent perceptions of the participants did not change, however, despite meaningful decreases in the presence of behavior. The authors point to the rigidity of perceptions of aggressive boys, and the relative lack of integration of teachers and parents into the treatment components.

Eighteen students from an inner-city elementary school were randomly assigned to a cognitive restructuring, response cost, or control condition in Forman (1980). The

purpose of the interventions was to decrease aggressive behaviors. The cognitive restructuring component involved identifying thoughts and feelings that lead to anger arousal, learning how people control their thoughts and feelings, and learning scripts to help calm oneself down. The response cost procedure involved basic loss of privileges for aggressive behaviors.

Dependent measures included behavioral observations, teacher ratings, and teacher behavioral records of aggression. Both the cognitive restructuring piece and the response cost procedure were shown to be effective in reducing aggressive behavior. The response cost procedure was found to be slightly more effective, however. The authors suggest that the greater involvement of teachers in the response cost procedure might have influenced their responses and observations recorded in the teacher rating scales and records of aggressive behavior. Another possible reason for the greater effect of the response cost procedure could be a stronger generalization component involved in the procedure.

La Greca and Santogrossi (1980) conducted a study with thirty children (15 males and 15 females) in grades 3-5. Each participant was assigned to one of three groups – a social skills group, an attention-placebo group, or a control group. Participants were selected based on low peer ratings of who the peers would like to both play with and work with.

Children in both the social skills and placebo groups met for 90 minutes after school once per week for four weeks. Children in both groups were given identical introductions in terms of what the program would contain. The social skills group consisted on instruction of eight social skills selected from a literature review by the

researchers. Treatment procedures were also selected based on a literature review, and included modeling, coaching, and behavioral rehearsal with videotaped feedback. All procedures were used in each session. Each session began with participants viewing a video of children performing the social skills and encountering positive consequences. A variety of situations, with different models, were shown. Following the videotapes, children discussed what behaviors were observed, the importance of these behaviors, and how the participants could engage in the behaviors in their daily lives. Children then had an opportunity to role play each skill, combined with coaching from the trainers. Situations for role plays were based on participant suggestions. These role plays were videotaped. Participants were immediately shown these tapes and given both corrective and positive feedback. Each session ended with a homework assignment, which was reviewed at the beginning of the next meeting.

The placebo group engaged in similar activities, yet unrelated to social skills. They viewed unrelated video segments, role played charades-type scenarios, and given homework assignments that were not peer-oriented. The control group only participated in pre and post assessments.

There were four pre and post measures. Behavior observations of two sample behaviors were conducted. A sociometric measure was administered. Children were asked to assess a videotape of peers engaging in situations (verbally described situations, and remark what they would do in a similar situation). Finally, children were rated on role plays. All observations were quantified, and various analyses were run. Several ANOVAs indicated a main effect for treatment when analyzing both the participants' verbal responses to the videotapes as well as

their reconstruction of the skills during role play. Other analyses of the data indicated similar results (a main effect for treatment), with the exception of the sociometric ratings. Finally, no differences were found between the attention-placebo group and the control group, indicating that simply increasing the amount of social interaction opportunities alone for students with social skills deficits may not be enough to improve social skills. This calls into question the practice of mainstreaming students with social skills deficits without providing sufficient social skills instruction.

Gresham and Nagle (1980) conducted a study with 40 third and fourth grade students from a predominantly middle-class school. Similar to the previous study, participants were selected based on ratings by same-sex peers on measures of the degree to which children preferred to work or play with each other. Participants were randomly assigned to one of four groups: modeling, coaching, modeling and coaching, and control.

Those in the modeling group were shown videotaped models for six sessions over a three week period. Videotapes involved peer models of certain social skills with a narration by an adult female. Sessions were conducted in dyads or triads, with participants having different partners each session. Each session lasted approximately 20 minutes. Participants in the coaching group received instruction in the same social skills as the modeling group. Each coaching session involved three components: presentation of steps and standards for each behavior; behavioral rehearsal; and feedback on performance as well as discussion and suggestions. The mixed group received abbreviated versions of both modeling and coaching. The control group watched an unrelated video for the same amount of time as each of the experimental groups were engaged in social skills training.

Dependent measures included behavioral observations, peer nominations, and peer ratings. The behaviors selected for observation were initiating and receiving both positive and negative interactions (four in total). These behaviors were selected based on literature suggesting to the researchers that the behaviors are highly correlated with social acceptance. Peer nominations and ratings involved peers listing and rating peers on the degree to which they would like to work with or play with them.

Results suggest that there was a main effect for treatment (as opposed to no treatment), but not for any one group placement. The combination of modeling and coaching, therefore, did not produce more benefits than either of the two conditions alone. In addition, peer ratings of wanting to *play* with group participants increased, but not ratings of wanting to *work* with group participants.

In a larger study, Weissberg et al. (1981) studied the effects of a 52-lesson, class-taught social problem solving training program. Participants were 243 third grade students in both urban and suburban settings. Participants were split between receiving intervention (n=122) and control (n=121). The treatment groups were comparable on several demographic variables, including sex and race.

The lessons came from a common book written by the researchers, with explicit descriptions of 52 lessons of 20-30 minutes in length. There were five major categories of skills: recognizing feelings; problem identification; generation of alternative solutions; consideration of consequences; and integration of problem solving behaviors. Activities included small group role play, videotaped models, cartoon workbooks, competitive games, and class discussion.

Dependent measures included four problem-solving assessments given to children, behavior observations during an analogue situation, and participant interviews (measuring their ability to describe the social problem-solving process). In addition, teacher rating scales, peer rating scales, and self report forms were used.

Those participating in the training showed gains across several skills, but not all skills. These results were mediated by the status of participants as urban or suburban. In both groups, participants gained skills. However, teacher ratings indicated a decline in social problem solving skills with the urban participants. The researchers offer several explanations, ranging from teacher apprehension of the program to unusually high pretest ratings by a teacher. Finally, there were no linkages found between social problem solving skills and behavioral outcomes as measured by rating scales, indicating that social-problem skills training alone may not be enough to modify classroom behavior. Overall, results varied highly depending on the specifics of the participants in each classroom. Further research, as well as more narrowly tailored programs, are likely necessary supplements to the interventions in this study.

Cooke and Apolloni (1976) used a smaller sample (n=4) of children in a within-subject multiple baseline across treatment components design. Students came from a small class of children labeled as learning disabled. The four children with the lowest levels of the target social skills were selected as participants. The remaining three children were used during assessment following each session.

There were various stages of sessions. First, five days of baseline data were collected. Then, instruction, modeling, and social praise were used to increase one behavior of the four selected. The next phase involved using the same techniques to

increase both the first behavior and an added second behavior. In each subsequent phase a new behavior was added. Immediately following each session, participants were brought into a room with their three other classmates in a free-play condition. The instructor left the room and only the data collectors remained.

Behavior observations were conducted using a whole interval momentary time-sampling technique. Interobserver agreement was conducted to ensure at least 85% agreement. Results suggest that the social skills training was effective for three of the behaviors (smiling, sharing, and positive physical contact), but not for the fourth behavior (verbal compliments). The authors hypothesize that verbal compliments may be unlikely, even given explicit instruction and praise, in a setting free of adult contingencies. The increases in the three behaviors were maintained during the four weeks of follow-up observations. In addition, behavioral observations of the three children who did *not* receive instruction revealed increased levels of behaviors in a similar fashion to the four participants who received the intervention. This finding suggests that even children who do not receive social skills training may benefit vicariously through those who do receive training. The researchers attribute this finding to the effects of modeling and/or social reciprocity.

In another multiple baseline across treatment component design, Bornstein, Bellack, and Hersen (1977) investigated the effects of social skills training with four children identified as not being assertive. Participants were selected on the basis of teacher ratings and behavioral observations. Participants ranged in age from eight to 11.

Each session involved one participant and two adult models. There were three 15 – 30 minute sessions per week. A new behavior was introduced each week. During each

session, various social scenarios requiring assertive responses were narrated over an intercom by an observer in another room separated by a one-way mirror. The participant was then asked to respond to the social situation. This activity was followed by corrective feedback and modeling by the two adults. Then, the participant engaged in the role play for a second time. This process continued until the outside observer determined that the participant had reached mastery level for that skill.

The dependent measure in this study was an observers rating of participant performance as a role player in an analogue setting similar to the intervention setting previously described. The behaviors selected were "ratio of eye contact to speech duration," "loudness of speech," and "requests for new behavior." In addition, separate observers rated each participant's overall assertiveness using a five-point Likert scale. Interobserver agreement was conducted for each measure.

Results were similar across all four participants. All three target behaviors were significantly increased. In addition, the global rating of assertiveness also increased as training sessions progressed. Two and four-week follow-up observations suggested that these changes generalized. However, no observations were conducted in natural settings, decreasing the strength of the generalization of the results. Overall, though, these results add support for the use of social skills training with both specific populations of children, and with specific behavioral concerns.

CHAPTER THREE

Method

Participants

The sample consisted of four English-speaking male participants aged 7-8. Two were African-American and two were Hispanic. Participants were selected based upon information provided by ASP staff. Participants attended the after-school program in a low socio-economic neighborhood.

Setting

This study was conducted at an after-school program in an urban area in Tampa, Florida. The site served approximately 100 children, ages six to 14 years. The site conducted activities from 2:30 – 9:00 P.M. Activities ranged from educational programming to recreation, with the primary purpose being positive youth development in a safe, supportive environment.

The student-staff ratio was approximately 25:1. There were approximately six staff on site every day. Educational background of staff varied from high school to college education. Some staff were employed full time and some part time. The background of staff varied on other dimensions, including ethnicity (several White staff, several Hispanic staff, and several African-American staff) and experience (two months to over ten years).

Dependent Measures

The dependent measures in this study consisted of behavior observations and a social skills rating instrument.

Behavior Observations

Behavior observations of the social skills used by participants in the study during normal ASP activities were conducted by the researcher and outside observers who had experience in behavior observations, and had been trained by the researcher. Behavior observations offered an opportunity for direct assessment of prosocial behaviors of the participants in the after-school setting. Observations were conducted prior to the beginning of the study in order to identify appropriate participants, and again throughout the study on all four students selected as the final participants. Observations were conducted before intervention, three times per week during intervention, and once upon conclusion of all interventions.

Three skills were chosen by the program staff as target behaviors for observation. Staff were asked to identify common behavioral concerns. From these concerns, three undesirable behaviors and their subsequent replacement behaviors were identified. The target behaviors that were selected and their definitions in behavioral terms (so as to be observable and measurable), were as follows:

Figure 1. Target Behaviors

Raising Hand Before Leaving Seat	The child raised his hand before leaving assigned seat or seating area unless instructed otherwise by an adult in the room. Examples included raising one's hand to go to the bathroom and raising one's hand to get additional materials. A student did not need to raise his hand to stand up in assigned seating area.
Sitting Properly In Seat	The student had his buttocks on the seat completely, had his torso facing forward, had both legs facing forward, had all four legs of the chair on the floor, and had the chair squarely facing the table in front of him. Sitting in seat was not scored when the child was out of the seating area.
Attending	The child was looking at approved materials. The child may also have been looking at an adult who was speaking to him or his group. Examples of attending included looking at a book and looking at a teacher giving directions directly to that student. Non-examples included looking at a paper airplane, and looking at an adult who was talking to another student and not the target student.

The fact that these behaviors were behaviorally defined also increased the potential reliability of the observations. In addition, the researcher used a standardized event recording procedure and momentary time sampling procedure which may have increased the reliability of the observations. A sample observation form is included in Appendix 2.

Students from the University of South Florida were chosen as observers. Each of the students that was selected had been trained and received supervision in the use of behavior observation methods and technology. The observers were instructed in the use of the specific observation forms developed for this study. The selected target behaviors were described in detail. The researcher engaged the observers in a discussion of examples and non-examples of the target behaviors. The coding system was then explained. Once the researcher observed that the observers understood the target behaviors and the coding system, modeling techniques were used to demonstrate the specific target behaviors, as well as to further demonstrate proper observation and recording procedures. Finally, the observers and the researcher ensured inter-observer agreement using the following procedure.

Inter-observer agreement consisted of two data collectors observing a child for 20 minutes using the same procedure as regular observation described below. Inter-observer agreement was conducted both during training to ensure competency, and during the study to ensure on-going data collection integrity. There are no set guidelines on the frequency of conducting inter-observer agreement during low-N studies (Kazdin, 1982). Kazdin (1982) suggests that inter-observer agreement should be conducted at least once

per phase of the study. As such, during the study, inter-observer agreement was

conducted for each individual once during most phases (including baselines and each of

the three intervention phases). Then, the following formula was used to calculate inter-

observer agreement:

Inter-observer agreement = $\dfrac{\text{Total Agreements}}{\text{Total Agreements} + \text{Total Disagreements}}$ x 100%

The criterion for inter-observer agreement was set at 90%. If this percentage would have

been lower either during training or during the study, additional review would have been

conducted with the observer. This review would have included a discussion of the target

behaviors, examples, and non-examples. It would also have included a review of the

coding process and use of the behavior observation instrument. Inter-observer agreement

then would have been conducted again. Further review would have continued until the

observer and researcher reached the 90% inter-observer agreement criterion. No data

from the observer would have been used until the 90% criterion had been met. There

were no instances when the criteria for inter-observer agreement was not met. A review

training was conducted with one observer, however, upon request by that individual.

Observations involved an observer sitting in the back or side of the homework

room, away from and not participating in the main activity. Each observer put only the

initials of the participant to enhance confidentiality. When the child raised his hand

before getting out of his seat, a mark was put in the appropriate space on the observation

form. When the child did not raise his hand before getting out of his seat, a mark was put

in the appropriate space on the observation form. When the child was attending, an "a"

was marked in the appropriate interval box. When the child was not attending, no mark

was put in the interval box to indicate no attending. When the child was sitting properly in his seat, an "s" was put in the appropriate interval box. When the child was not sitting properly in his seat, an "n" was put in the appropriate interval box. A sample behavior observation form is included in Appendix 2.

A behavior observation form was created specifically for use in this study. The observation forms utilized both a momentary time sampling and event recording procedure as described above. The same observation form was used throughout the entire study. Thus, those not involved in the intervention phase of the study had no knowledge of what phase the study was in, limiting any tendency an observer might have had to react to participants' behavior on the basis of the phase of the study.

Selected Social Skills Rating Instrument

Because only three behaviors were targeted in this study, a published rating scale was not used. Published rating scales, such as the Social Skills Rating System (SSRS) (Gresham & Elliott, 1990), include items across many behaviors. Composite scores on these scales, then, would not have been sensitive to changes in only a select number of behaviors.

Instead of a published rating scale, each staff member at the ASP was given a rating scale comprised of items designed specifically for this study. Multiple items were crafted for each behavior. These items were then presented in a random order using a Likert-type scaling procedure. Each staff member was asked to fill out the form as described in the participant selection section and instructions on the form (Appendix 1). Acopy of this rating scale is included in Appendix 1.

For all measures, there were no known ethical issues with the data collection methods. They were unobtrusive and required very little time of program staff. They required no time of study participants, and resulted in no known adverse outcomes for anyone involved. In regard to confidentiality, no participant was identified or discussed with anyone except site staff, the participant's parent(s) or guardian(s), and the researcher.

Design and Procedures

A multiple baseline across behaviors was used. There were three baselines. Different social skills were introduced at different times to each of the four children. In addition, the differential effects of two major components of social skills training – direct instruction and reinforcement – on prosocial behaviors were explored using a multiple baseline format. Specifically, direct instruction and reinforcement were introduced in different phases for different behaviors to determine whether direct instruction, reinforcement, or both influenced prosocial behavior of the participants the most. Experimental control was achieved for both the direct instruction intervention and the direct instruction/reinforcement combination. Experimental control was not, however, achieved for the reinforcement intervention.

Figure 2. Example of Multiple Baseline Across Behaviors (with three behaviors)
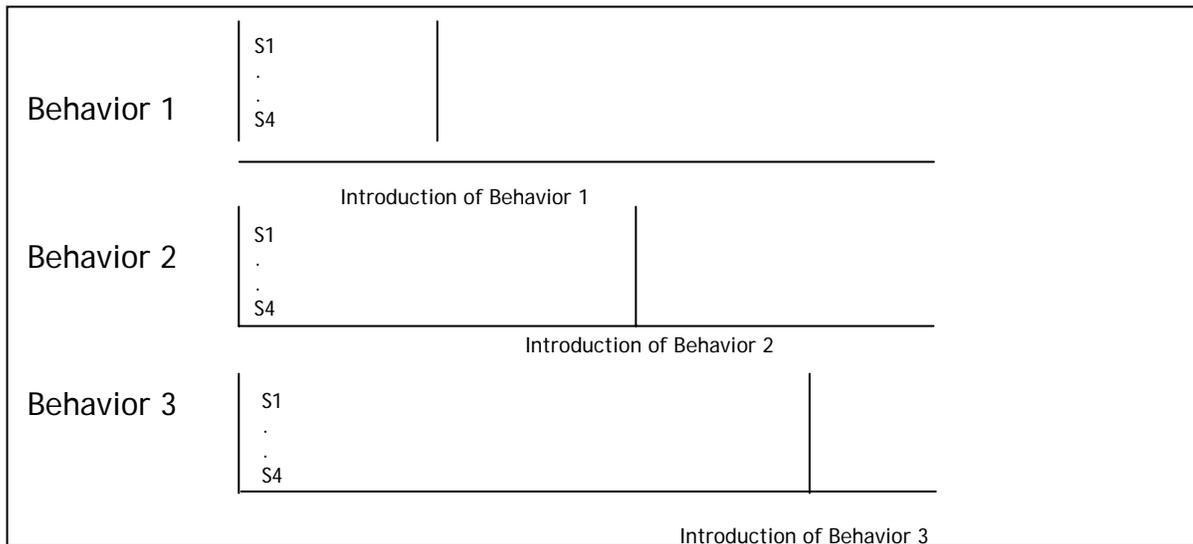
This study was implemented in a series of steps that made up the procedures.

<u>Step 1: Site Selection</u>

The researcher approached the Boys and Girls Club of Tampa Bay and requested permission to conduct this study at one of their sites. However, no sites were available from the the organization. As a result, the researcher approached Hillsborough County Department of Parks, Recreation, and Conservation, who approved the study to be conducted at one of their recreation facilities. The researcher presented the following criteria for a site to be selected:

- urban

- at least four staff members

- daily attendance of at least 40 children

- at least 25 children who regularly attend are in grades 1-3

The site selected was then contacted, and permission was requested for the study to be conducted at that site. The site administrator and personnel from Hillsborough County Department of Parks, Recreation, and Conservation granted permission for the study to take place at the proposed site.

Step 2: Selection of Participants

Participants were selected through several steps designed to identify children who exhibit specific social skills deficits. First, staff members, as a group, identified three target social skills commonly deficient among children in their program. Staff then nominated eight English-speaking boys who they believed most lacked the target behaviors. Only English-speaking boys were selected to eliminate the potentially confounding effects of language and gender in the study. Also, the age range of the participants was narrowed down to a 2-year range (ages 7-8-year-olds). The purpose of this criterion was to reduce the potentially confounding effects of age differences in the study.

Second, once these eight boys were nominated, parental consent was obtained for each participant. Third, each staff member then completed the rating scale included in Appendix 1 on each child. The six children with the most deficient social skills were identified. Fourth, three behavior observations were conducted on each of these six children.

Fifth, the four children (of the six) who exhibited the greatest skill deficits during behavior observations were identified as potential participants. Each potential participant was required to exhibit each desired target behavior 50% or less of the time when an antecedent of the behavior occured. If any of the four potential participants would not

have met this criterion, they would have been replaced by the child from the previously identified group of six who had exhibited the next lowest skill deficit, assuming that child would have met the criterion. If a total of four children would not have been able to be identified, behavior observations would have been conducted on the other two children (of the original eight) who were not selected previously after the rating scale was administered. If neither of these children would have met the criterion, all staff would have selected three more children (in the same manner as was originally done) on which to complete rating scales and behavior observations.

Step 3: Baseline Data and Staff Training

Baseline data was collected across all three behaviors three times per week for more than two weeks and the behavior had stabilized. Stabilization of behavior was defined as a trend line which was flat or worsening in slope for at least 3 data points, as assessed by the researcher using visual analysis procedures. Data collected during the participant selection phase of the study also was used as the initial baseline data.

Upon completion of the last baseline point before any intervention was implemented, staff training was conducted. Staff needed to be trained prior to intervention implementation so that they were ready to give social skills prompts immediately following the first intervention phase. However, staff training was coordinated so that it did not occur substantially in advance of the intervention. The purpose of this timing coordination was to ensure that staff did not begin using prompts before the intervention began. Staff were also told not to use any of the prompts until the intervention began. The exact time of intervention implementation was clearly communicated to staff.

Staff training consisted of the researcher giving program staff an overview of the research project, of each staff member's role, of the nature and purpose of social skills training and its relevance in the present study. Each staff member was instructed on the importance of prompts in the implementation of social skills in natural settings. They were also instructed as to their responsibility in prompting a participant, as much as possible, when presented with potential stimuli of the target behavior. A prompt, in this study, was described as a verbal cue to the child to engage in social problem solving steps (e.g., "Stop and think – do you want to make a good choice or a bad choice?") that the child learned in SST along with the target behaviors. The researcher modeled the appropriate use of a prompt. The researcher then observed site staff practice giving prompts to ensure competency in this skill area.

Step 4: SST Introductory Meeting

Before the first SST session began, the child participants were introduced to the researcher. The training (and all subsequent sessions) was conducted in a computer room with no other individuals present at the time of training. The researcher conducted the session, which lasted approximately 30 minutes.

During the introductory meeting, the researcher introduced SST and explained the process to the four participants. Input from the participants was sought as to the importance of social skills, when they should be used, what happens when someone uses social skills, and example social skills. Social skills prompts, as described in the site staff training section above, were taught to the participants. Specifically, participants were taught that staff use of a prompt is their signal to engage in the desired behavior. The researcher then modeled a desirable response to the prompt (completion of target

behavior). After the researcher modeled responding to a prompt, each participant was asked to practice responding to a prompt. Feedback regarding the strengths and weaknesses of each participant's performance was given, and practice continued until the researcher observed the participants successfully responding to prompts. The researcher concluded by informing the participants that they would be meeting once a week at a prearranged time.

Step 5: Session 1 and Continued Baseline Data Collection

During this step, the first social skills training session was conducted and the first behavior introduced. This session, and all others that will follow, lasted approximately 30 minutes. Session 1 begin with a review of the nature of social skills and their importance. Then, the skill was introduced. Next, the researcher asked the participants for a common situation when this skill may be useful. The researcher then modeled the skill using externally verbalized self-talk. The researcher then gave each of the participants a chance to role play the behavior. Each participant had the opportunity to role play at least once during each session. After each role play, the main actor (child participant exhibiting the target behavior) had the opportunity to receive performance feedback from his peers. Each session concluded with any remaining comments or questions. These sessions closely followed McGinnis and Goldstein's (1997) skillstreaming curriculum, and utilized the "Stop and Think" social problem solving steps introduced by Knoff and Batsche (1995).

Data was collected on all three behaviors following Session 1. Data collection continued three times per week until the intervention target behavior stabilized. Stabilization of behavior was defined as a trend line which was flat or worsening in slope

for at least 3 data points, as assessed by the researcher using visual analysis procedures. Each week, the SST group convened at the same time and place. If data were stable, a new behavior was introduced. If, after one or two weeks, behavior had not stabilized, a review of the previously introduced skill was conducted. This review followed the same format as a session when a skill was introduced. However, greater emphasis was placed on child role plays. In addition, hindrances encountered to successful use of the target behavior were discussed.

Steps 6-8: Continued Intervention and Continued Baseline Data Collection

Steps 6-8 followed the same procedures as Step 4, with a new skill being introduced upon stabilization of the behavior. The same randomization procedure described before were again used during these steps. At the beginning of each session after Session 1, the skill taught the previous week was reviewed. Baseline data collection continued. However, Step 7 did not include baseline data collection because all three skills already had been introduced. Step 7 concluded when the third behavior introduced stabilized.

Data Analysis

Upon completion of all phases of the study, the data were analyzed. Because the design was a low-N design, visual inspection was used to determine if a behavior change was significant. Visual inspection is the most often used form of analysis; and, except in certain circumstances, is sufficient in determining the effectiveness of the intervention in a multiple baseline design (Kazdin, 1982). Visual inspection involves an analysis and comparison of data within and between phases according to several criteria: mean (comparing the means of data in each phase), level (change from last data point in one

phase to first data point in next phase), trend (slope of data within a phase), variations in

the latency of change (how long it takes for change to take effect), variability of data

(homogeneity of data), and overlapping points (Kazdin, 1982). Significance of the

intervention effects was also determined by computing the percentage of non-overlapping

data (PND) points between adjacent phases. A PND of 90 and above indicates a highly

effective intervention. A PND of 70-90 indicates a moderately effective intervention. A

PND of 50-70 indicates a mildly effective intervention, and a PND of 50 and below

represents an ineffective intervention and/or non-significant effects (Mathur et al., 1998).

CHAPTER FOUR

Results

Introduction

The purpose of this chapter is to report the results of the present study as described in Chapter Three. The research hypotheses are restated and addressed with the results of the behavior observation data.

Significance Levels and Experimental Control

A multiple baseline across behaviors design was used in this study to address the effects of social skills training on prosocial behaviors. In addition, the differential effects of two major components of social skills training – direct instruction and reinforcement – on prosocial behaviors were explored using a multiple baseline format. Specifically, direct instruction and reinforcement were introduced in different phases for different behaviors to determine whether direct instruction, reinforcement, or both influenced prosocial behavior of the participants the most. Experimental control was achieved for both the direct instruction intervention and the direct instruction/reinforcement combination as evidenced by the data in Figure 1. Experimental control was not, however, achieved for the reinforcement intervention.

Reinforcement was delivered separate from direct instruction for both the behaviors of sitting properly and attending. Prior to the implementation of reinforcement for sitting properly, the data indicated that the performance of the participants had begun to improve. The participants were sitting properly an average of 89% of the time. While the data did indicate some improvement in behavior upon implementation of reinforcement, the data already had begun to show improvement, limiting experimental

control. The data for attending showed a similar pattern. Attending behavior began to improve significantly during baseline conditions, limiting the degree to which it could be asserted that reinforcement, as opposed to another variable, was responsible for the change.

Significance for each intervention was determined using several procedures. Data were analyzed in terms of mean, level, slope, variability, latency, and overlapping points for each phase of the study. Visual analysis of trend was conducted using trend lines created through Microsoft Excel. These trend lines were compared across phases and participants of the study. A stable trend line indicates no intervention effects, while an increasing trend indicates an improvement in behavior. A decreasing trend line indicates worsening behavior. Visual analysis of level was conducted by comparing the last data point in the first phase with the first data point in the second phase of comparison. Visual analysis of mean was conducted by comparing the mean level of behavior within each phase of the study. Visual analysis of latency was conducted by examining the amount of time between the implementation of the intervention and the presence of any intervention effects. Visual analysis of variability was conducted by comparing the range of data points within each phase with the range of data points from other phases. Significance of the intervention effects was also determined by computing the percentage of non-overlapping data (PND) points between adjacent phases. A PND of 90 and above indicates a highly effective intervention. A PND of 70-90 indicates a moderately effective intervention. A PND of 50-70 indicates a mildly effective intervention, and a PND of 50 and below represents an ineffective intervention and/or non-significant effects (Mathur et al., 1998).

The specific phases along with the data are presented in Figure 3 below:
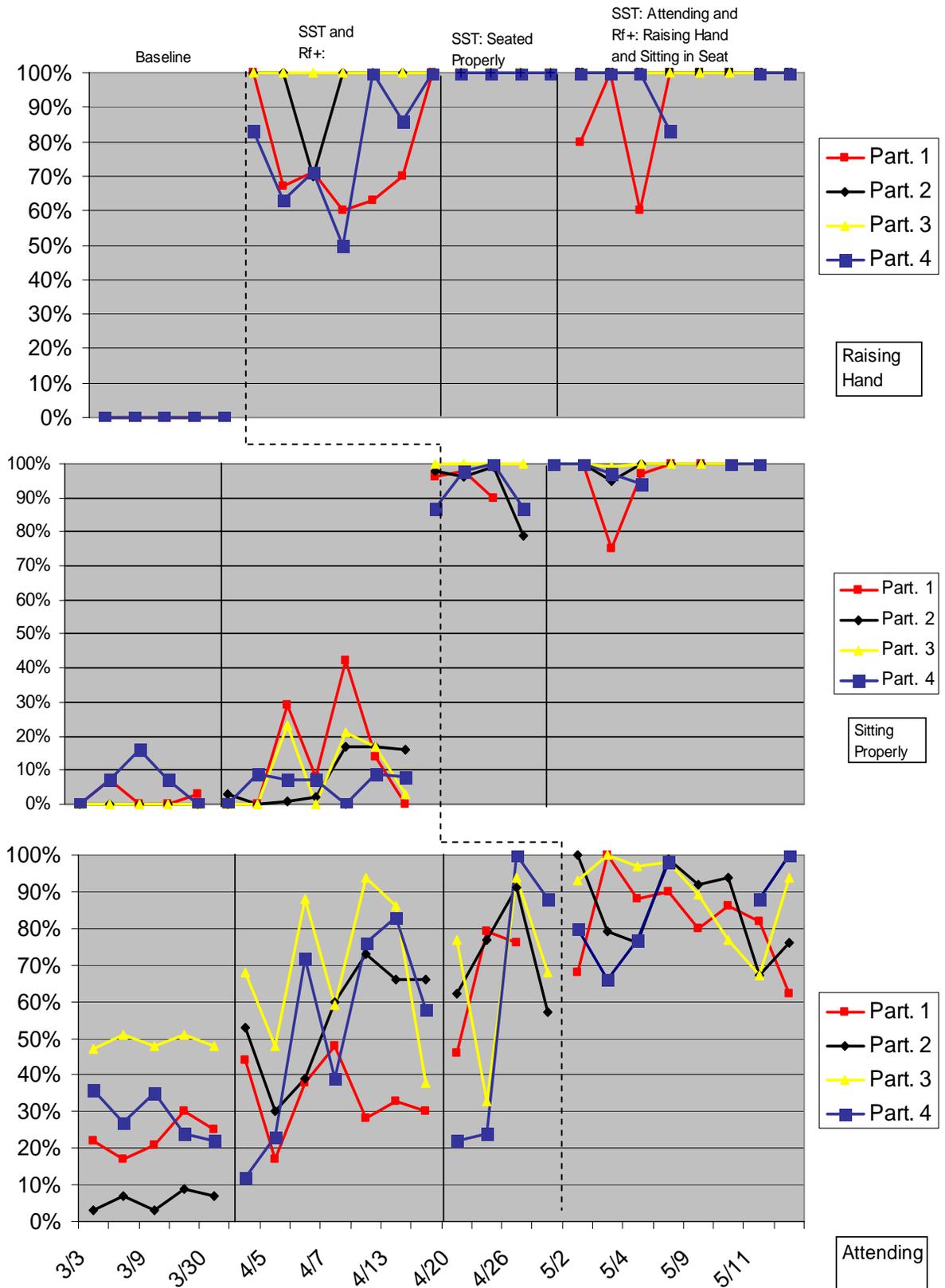
Hypothesis:

The hypotheses in this study were as follows:

1. The direct instruction component of social skills training will result in a significant increase in positive social behaviors.

2. The reinforcement component of social skills training will result in a significant increase in positive social behaviors.

3. When combined, the direct instruction and reinforcement components of social skills training will produce a significant increase in positive social behaviors.

The direct instruction component of social skills training will result in a significant increase in positive social behaviors.

This hypothesis was confirmed. There was a positive relationship between the direct instruction component of social skills training and prosocial behaviors. Direct instruction was delivered separate from reinforcement for two of the three behaviors – sitting in seat properly and attending. Visual analysis indicates that the direct instruction component produced significantly higher rates of sitting in seat properly. However, direct instruction had varying results on attending.

Figure 4
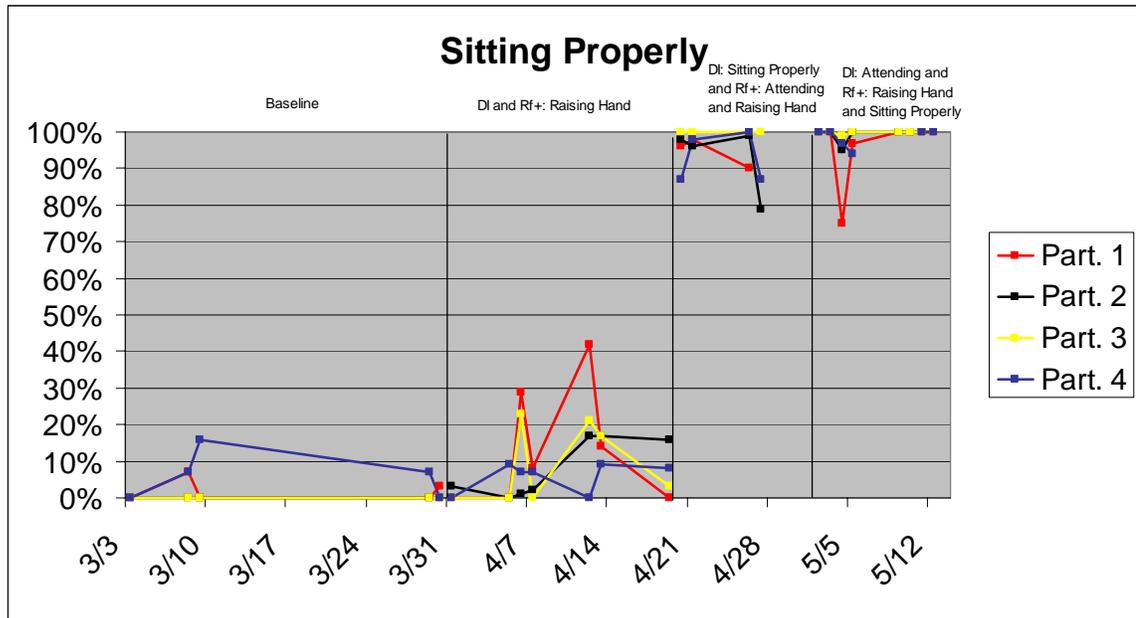
Rf+=Reinforcement; DI=Direct Instruction

Figure 2 presents the data for all four participants for the positive social behavior of

sitting properly. There was a large level change between the last data points in baseline

and the first data points in the direct instruction intervention phase. Specifically, all data

points were under 20% on the last baseline data points and jumped to over 80% for the

first intervention data points. There was also a large increase in the means between the

two phases. Across all four participants, there was an 89% increase in the mean of sitting

properly behavior with the implementation of direct instruction.

There does not appear to be a difference in slope between the two phases. However,

the rate of sitting properly could not have significantly gone down any more during

baseline, and could not have significantly gone up during the direct instruction

intervention phase. There was no latency of change from baseline to the direct instruction

phase – the increases occurred immediately.

The PND data indicate a highly effective intervention according to the significance criteria described previously. A PND of 100% was computed for each participant between the baseline and direct instruction phases. Finally, the variability for two of the students (Participant One and Participant Three) decreased substantially as indicated by substantially diminished ranges of data between the baseline and direct instruction phases. Specifically, Participant One's range decreased by 34 percentage points, while Participant Three's range decreased by 23 percentage points. The variability appeared to be low, yet unchanged for the other two students (Participant Two and Participant Four). Participant Two's range increased from 17 to 20 percentage points, and Participant Four's range decreased from 16 to 13 percentage points.

Figure 5
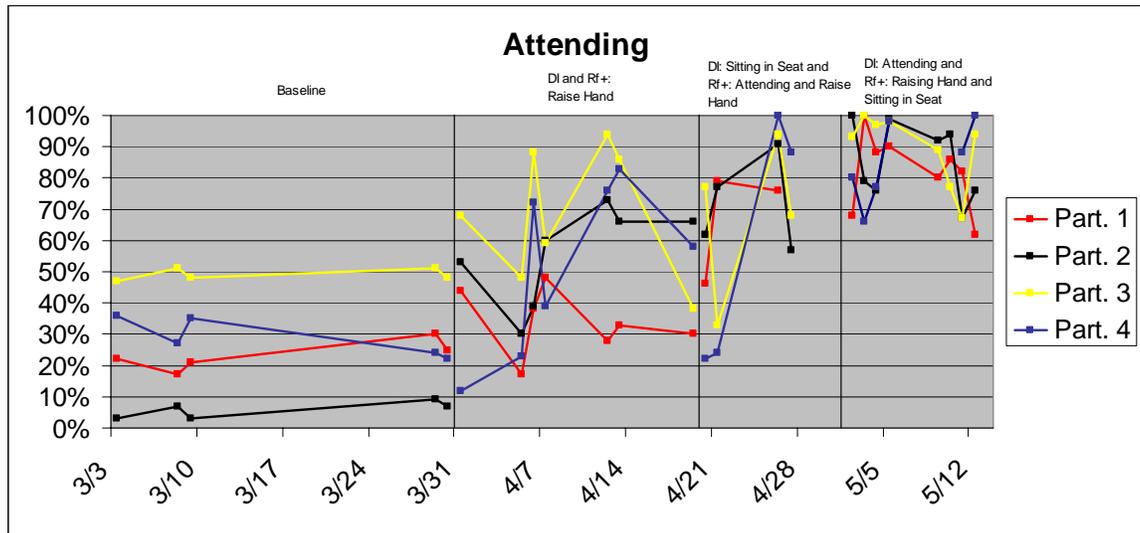
The direct instruction component of social skills training on attending behavior had varying results across the four participants. The data for Participant Two and Participant Three indicate a positive level change from the third (baseline for direct instruction) to fourth (direct instruction intervention) phases. However, the data indicate a negative level change for Participant One and Participant Four. The only level change

exhibiting moderate significance is the positive level change exhibited in the data for Participant Two.

The means of all four participants increased from the reinforcement phase to the direct instruction phase for attending. The lowest percentage point increase was experienced by Participant Two at a 13 percentage point increase between the third and fourth phases. On average, participants' attending increased 18 percentage points between the two phases. This suggests that the direct instruction component did increase attending behavior.

Visual analyses of the slopes indicate that, during phase three, the slopes of all participants' data were increasing. During the direct instruction intervention phase (phase four), however, all of the slopes began decreasing with the exception of Participant Four. Attending data remained high consistently throughout the fourth phase, though.

The variability of attending data decreased substantially during the direct instruction phase for Participants Three and Four. Specifically, Participant Three's range decreased by 28 percentage points. Participant Four's range decreased by 44 percentage points. Particpants One and Two saw no large changes in range with the implementation of direct instruction.

PND data indicate that direct instruction, overall, was not an effective intervention with a PND of 41%. However, direct instruction was a moderately effective intervention for Participant One with a PND of 75%, and a mildly effective intervention for Participant Two with a PND of 50%.

It should be noted, as discussed previously, that there was a low degree of experimental control with attending data. The data already had begun to demonstrate an improvement prior to intervention, limiting the extent to which changes in data can be attributed to direct instruction.

Overall, the direct instruction component does appear to have improved significantly the behavior of sitting in seat properly. In addition, the differences in means between the third and fourth phases of attending suggest that direct instruction had an impact on attending behavior as well. Variability and PND data also suggest that direct instruction had a stronger impact on certain individual participants than others. However, inconsistent level changes across individuals, worsening slopes from the third to fourth phases, and inconsistent PND and variability data suggest that the direct instruction component was not as effective for attending behavior.

The reinforcement component of social skills training will result in a significant increase in positive social behaviors.

This hypothesis was partially confirmed. Reinforcement was delivered separate from direct instruction for two of the three behaviors – sitting in seat properly and attending. For the behavior of sitting in seat properly, reinforcement served to maintain an already high level of behavior. There were varying results for attending.

Figure 2 (above) indicates that the direct instruction component of social skills training produced consistent and high levels of sitting properly across all four participants. Reinforcement did not improve sitting properly behavior above what direct instruction already had accomplished. The average increase in mean of sitting properly after the implementation of reinforcement was only 4 percentage points across all four

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participants. The average reduction in range of sitting properly data was one percentage point after the implementation of reinforcement. In addition, the PND data indicate that reinforcement did not produce any significant benefit to direct instruction as the average PND was 41% across all four participants. Participants One and Two, however, did have PNDs of 75% of 88% respectively, indicating moderately strong interventions. The mean data for Participants One and Two, though, did not indicate that a significant change in behavior actually occurred. The PND data for in this situation, then, should be interpreted with caution.

Although reinforcement did not significantly change sitting properly behavior, no further increase in sitting properly behavior would have been possible. Direct instruction served to improve sitting properly data to such a high degree that there was a ceiling effect on the data – no additional benefit could have occurred. It is not possible, then, to determine whether reinforcement could have further strengthened this behavior if the direct instruction component had not been as effective. Reinforcement, however, did serve to maintain a consistently high level of behavior even after the direct instruction component had been discontinued for sitting properly in one's seat.

Figure 3 (above) indicates that the reinforcement component of social skills training affected participants' attending behavior to varying degrees. For data analysis purposes, two different sets of baseline data will be considered. The first set of baseline data is the traditional baseline data set, or all data collected before the implementation of any intervention. The second, alternative, set of baseline data is all data collected on March 31 and after, when direct instruction and reinforcement were introduced for raising one's hand. This distinction is made because there appears to be a significant

difference between the attending data before and after March 31 when the first intervention for a different behavior (raising one's hand) began. Mean, variability, and PND data for both baselines are summarized in Tables 7-12. However, only the data calculated using the modified baseline data are discussed, as the modified baseline data is considered to be a more accurate representation of the data just prior to implementation of reinforcement.

Before discussing the data for attending, it is important to restate that there was a low degree of experimental control for attending data. The data demonstrated an improvement in attending behavior before any intervention was conducted for attending. There were several trends in the data indicating that attending behavior was, in fact, better after the implementation of both reinforcement and direct instruction. However, it is not possible to conclude that this improvement was the result of reinforcement of or direct instruction in attending.

The individual participants responded somewhat differently over the course of reinforcement for attending. Participant One responded very positively to reinforcement without prior direct instruction. There was a 16 percentage point increase between the last baseline data point and the first reinforcement intervention data point. In addition, there was an increase in the mean of attending behavior from 34% to 67% between the modified baseline phase and reinforcement phases. There is also a higher slope indicating a higher rate of improvement of attending behavior after the introduction of reinforcement. There was no significant difference in the variability of attending behavior after the introduction of reinforcement. PND data suggest a mildly effective intervention at 68%.

Participant Two's attending behavior also increased, but not with the same strength as Participant One. First, there was a drop in level upon the introduction of reinforcement. However, this appears to have just been a temporary decrease as there was an increase in mean of attending behavior from 55% to 72%. The slope of the data after the introduction of reinforcement, though, does appear to be lower than during baseline, indicating that attending behavior increased at a slower rate after the introduction of reinforcement. In addition, although there was a nine-point decrease in the range of the data after the implementation of reinforcement, the data do not appear to be significantly more stable as there was still a 33-point range in the data. PND data suggest that reinforcement was a mildly effective intervention for Participant Two at 50%.

Participant Three's attending behavior appears to have improved when looking at the level change between the baseline and reinforcement conditions. There was a 39 percentage point increase between the last point of the baseline phase and the first point of the reinforcement phase. Another indication of the effectiveness of reinforcement on Participant Three's attending behavior is the change in slope between the two phases. During the baseline phase, the slope indicated a decline in attending behavior. After the introduction of reinforcement, however, the slope indicated an increase in attending behavior. Despite these data trends, however, the mean of attending behavior actually declined from 69% to 68% between phases. Furthermore, the data were no more stable after the introduction of reinforcement with a five-point increase in the range of data after the implementation of reinforcement. PND data suggests an ineffective intervention as 100% of the data points during the reinforcement phase overlapped with data points from the modified baseline phase.

Reinforcement appears to have been slightly more effective with Participant Four than Participant Three, but not significantly. There was a mean increase in attending behavior from 52% to 59%, and there was a positive change in slope from baseline to reinforcement conditions. However, there was a 36 percentage point drop in level between the two phases, and the data during the reinforcement phase was more variable than during baseline as evidenced by an increase in range by 7 percentage points. PND data do suggest that reinforcement was a mildly effective intervention, though, at 50%.

Reinforcement, overall, appears to have had varying effects across participants. According to visual analysis procedures, Participant One and Participant Two responded more positively to reinforcement than did Participant Three or Participant Four. All participants did appear to have benefited to some degree from reinforcement. However, there were significant limitations to the effectiveness of reinforcement with three of the four participants (excluding Participant One).

Across all four participants, there was a 14 percentage point increase in mean from the modified baseline phase to the reinforcement phase. There was an increase by two percentage points in the range of the data. In addition, PND data suggest that, overall, reinforcement was not an effective intervention for attending with only 52% of the data in the reinforcement phase not overlapping with data from the modified baseline phase.

When combined, the direct instruction and reinforcement components of social skills training will produce a significant increase in positive social behaviors.

It is not possible to make a direct comparison between the effects of direct instruction alone, reinforcement alone, and the two conditions combined within a single

behavior because all three conditions were not experimentally presented for any single behavior. However, the effectiveness of the combination of direct instruction and reinforcement was examined with the behavior of raising one's hand before leaving the seat, referred to as "raising hand."

Figure 6
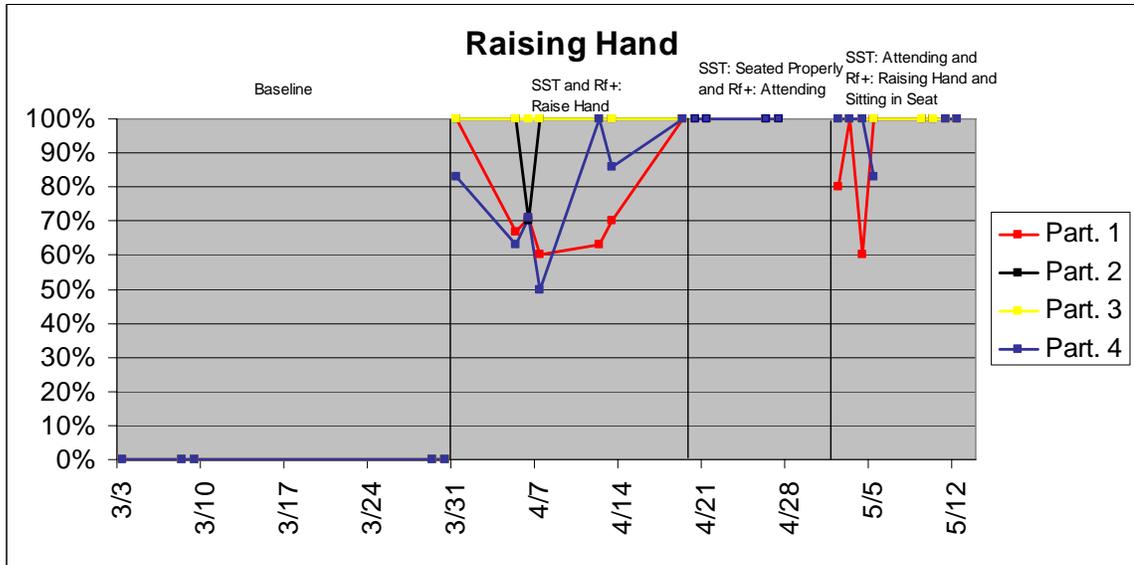
Figure 6 presents the data for raising hand. Upon the presentation of the combination of reinforcement and direct instruction, all domains of visual analysis indicate an improvement in raising hand. There was a large increase in the means of each participant between baseline and intervention phase. Specifically, there was a 94 percentage-point increase from the baseline to intervention phase. There was a significant level change between the two phases. PND data suggest a strong intervention with 100% of the data points during the intervention phase overlapping with data from the baseline phase. A positive change in slope was noted for all participants during intervention phase except for Participant Three, who raised his hand 100% of the time during all intervention phases. There was an increase in the variability of the data, with an increase

in range of data by 30 percentage points across all participants during intervention phase. However, data during the baseline phase was highly consistent because of the 0% level of raising hand data during baseline phase.

While it is not possible to make a statement regarding the relative effectiveness of the combination of direct instruction and reinforcement when compared to either element presented independently, it is possible to confirm that this combination of intervention components produced powerful and lasting results across all intervention phases.

Comparison of the Relative Effectiveness of Reinforcement, Direct Instruction, and the Combination of Both Interventions

Both direct instruction and the combination of direct instruction with reinforcement seem to have produced the greatest results in the present study. There was an 89 percentage point increase on average in the means of sitting properly data after the implementation of direct instruction. PND demonstrate that this intervention was highly effective at 100%. For attending behavior, the range of data decreased from 52 percentage points during reinforcement phase to 35 percentage points during direct instruction phase.

The combination of direct instruction and reinforcement resulted in a 94 percentage point increase on average in the means of raising hand data after the implementation of direct instruction and reinforcement. PND data suggest a highly effective intervention at 100%.

Reinforcement, at its best, resulted in a 25 percentage point increase in attending behavior. However, this statistic is cannot be experimentally attributed to reinforcement as the data had begun to increase before reinforcement was implemented. Overall, when

compared to direct instruction, reinforcement produced fewer desirable results. When reinforcement did appear to produce greater results than direct instruction, the difference was not large.

Table 1

Mean Level of Sitting Properly Data Within and Between Phases

Participant	Baseline	DI[1]	Change	Rf+[2]	Change	Net Change[3]
1	9%	95%	86	97%	2	88
2	5%	93%	88	99%	6	94
3	5%	100%	95	100%	0	95
4	6%	93%	87	99%	6	93
Average	6%	95%	89	99%	4	93

[1]DI = Direct Instruction

[2]Rf+=Reinforcement

[3]Net Change=Total change between Baseline and Rf+ phases.

Table 2

Range of Sitting Properly Data Within and Between Phases

Participant	Baseline	DI	Change	Rf+	Change	Net Change
1	42[1]	8	-34	25	17	-17
2	17	20	3	5	-15	-12
3	23	0	-23	1	1	-22
4	16	13	-3	6	-7	-10
Average	25	10	-14	9	-1	-15

[1]Percentage Points

Table 3

Percent of Nonoverlapping Points Between Phases for Sitting Properly Data

Participant	Baseline to DI	DI to Rf+	Baseline to Rf+
1	100%[1]	75%	100%
2	100%	88%	100%
3	100%	0%	100%
4	100%	0%	100%
Average	100%	41%	100%

[1]Interpreted as 100% of the data in the DI phase does not overlap with data in the

Baseline Phase.

Table 4

Mean Level of Raising Hand Data Within and Between Phases

Participant	Baseline	DI and Rf+[1]	Change
1	0%	87%	87
2	0%	98%	98
3	0%	100%	100
4	0%	90%	90
Average	0%	94%	94

[1]Direct Instruction and Reinforcement were delivered simultaneously for Raising Hand

Table 5

Range of Raising Hand Data Within and Between Phases

Participant	Baseline	DI and Rf+	Change
1	0	40	40
2	0	30	30
3	0	0	0
4	0	50	50
Average	0	30	30

Table 6

Percent of Nonoverlapping Points Between Phases for Raising Hand Data

Participant	Baseline to DI and Rf+
1	100%
2	100%
3	100%
4	100%
Average	100%

Table 7

Mean Level of Attending Data Within and Between Phases – Baseline1[1]

Participant	Baseline1	Rf+	Change	DI	Change	Net Change
1	29%	67%	38	82%	15	53
2	35%	72%	37	85%	13	50
3	61%	68%	7	89%	21	28
4	42%	59%	17	85%	26	43
Average	42%	67%	25	85%	19	44

[1]Baseline1 = traditional baseline data set, or all data collected before the implementation of an intervention for attending behavior.

Table 8

Mean Level of Attending Data Within and Between Phases – Baseline2[1]

Participant	Baseline2	Rf+	Change	DI	Change	Net Change
1	34%	67%	33	82%	15	48
2	55%	72%	17	85%	13	30
3	69%	68%	-1	89%	21	20
4	52%	59%	7	85%	26	33
Average	53%	67%	14	85%	18	32

[1]Baseline2 = modified baseline data set, or all data collected on March 31 and after, but before the implementation of any intervention for attending behavior.

Table 9

Range of Attending Data Within and Between Phases – Baseline1

Participant	Baseline1	Rf+	Change	DI	Change	Net Change
1	31	33	2	38	5	7
2	70	34	-36	33	-1	-37
3	56	61	5	33	-28	-23
4	71	78	7	34	-44	-37
Average	57	52	-6	35	-17	-23

Table 10

Range of Attending Data Within and Between Phases – Baseline2

Participant	Baseline2	Rf+	Change	DI	Change	Net Change
1	31	33	2	38	5	7
2	43	34	-9	33	-1	-10
3	56	61	5	33	-28	-23
4	71	78	7	34	-44	-37
Average	50	52	2	35	-17	-15

Table 11

Percent of Nonoverlapping Points(PND) Between Phases for Attending Data – Baseline1

Participant	Baseline1 to Rf+	Rf+ to DI	Baseline1 to DI
1	67%	75%	100%
2	50%	50%	88%
3	0%	38%	38%
4	50%	0%	50%
Average	42%	41%	69%

Table 12

Percent of Nonoverlapping (PND)Points Between Phases for Attending Data – Baseline2

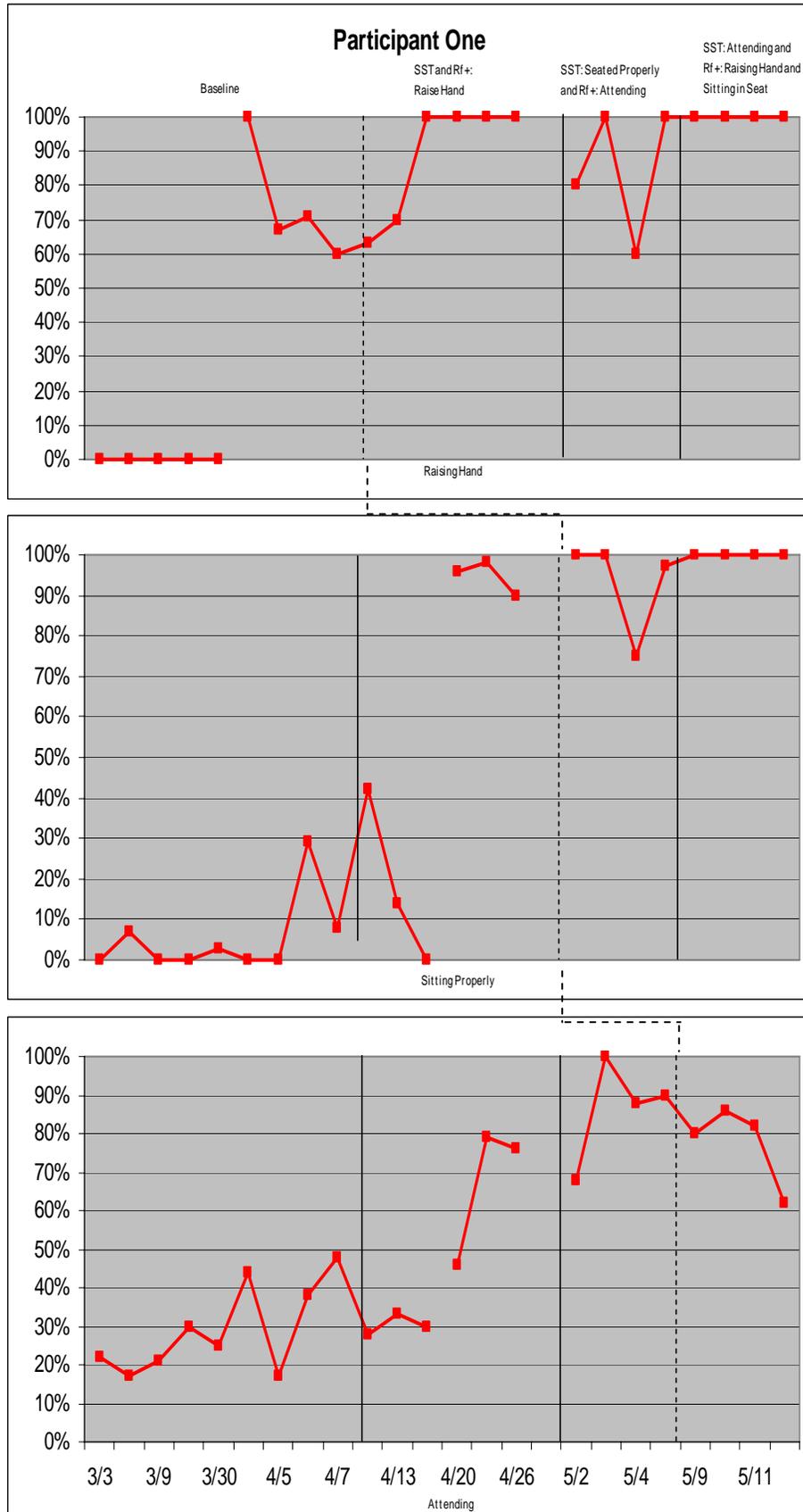| Participant	Baseline2 to Rf+	Rf+ to DI	Baseline2 to DI
1	67%	75%	100%
2	50%	50%	88%
3	0%	38%	38%
4	50%	0%	50%
Average	42%	41%	69%

Figure 7. Participant One Data

Figure 8. Participant Two Data.
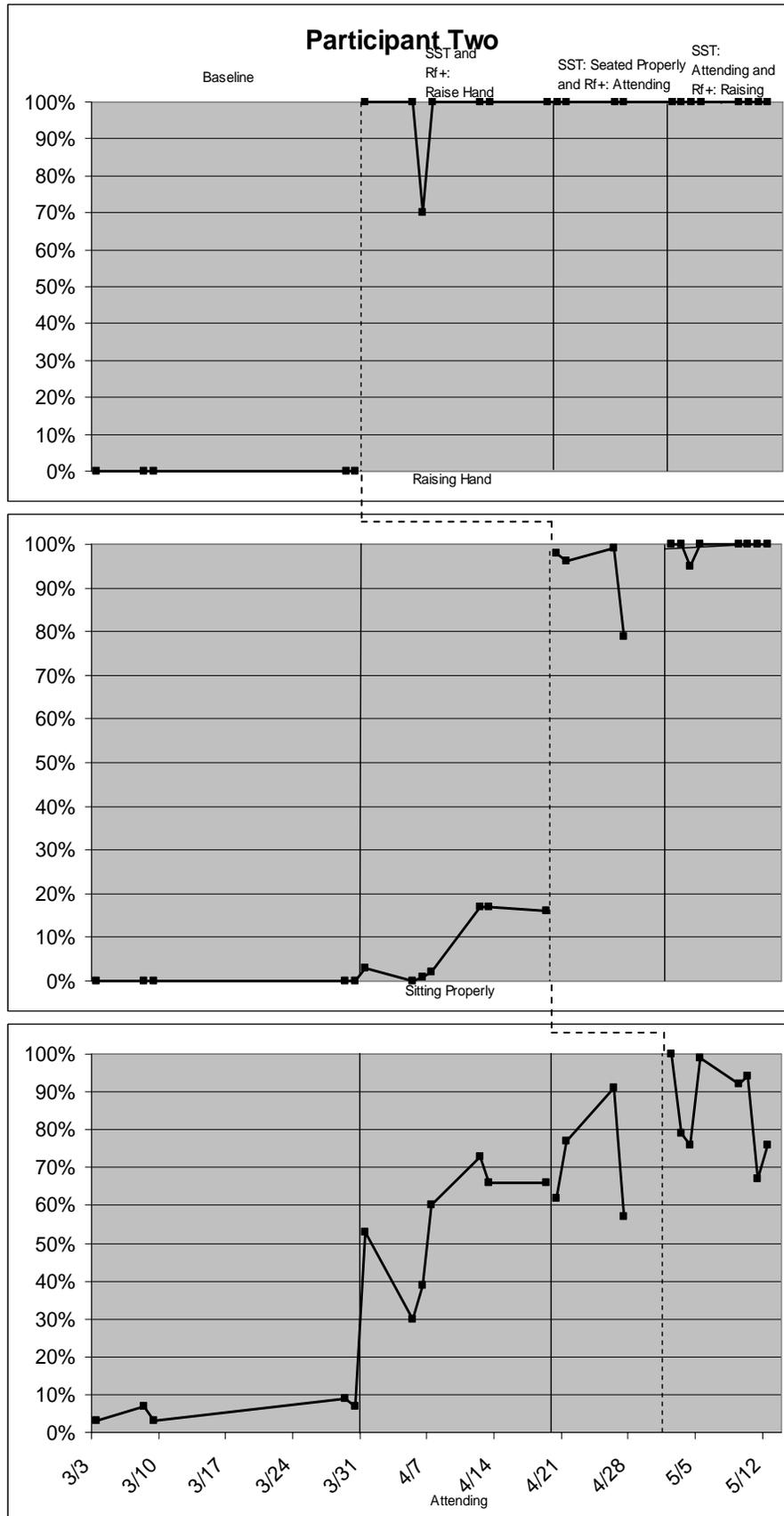
Figure 9. Participant Three Data.
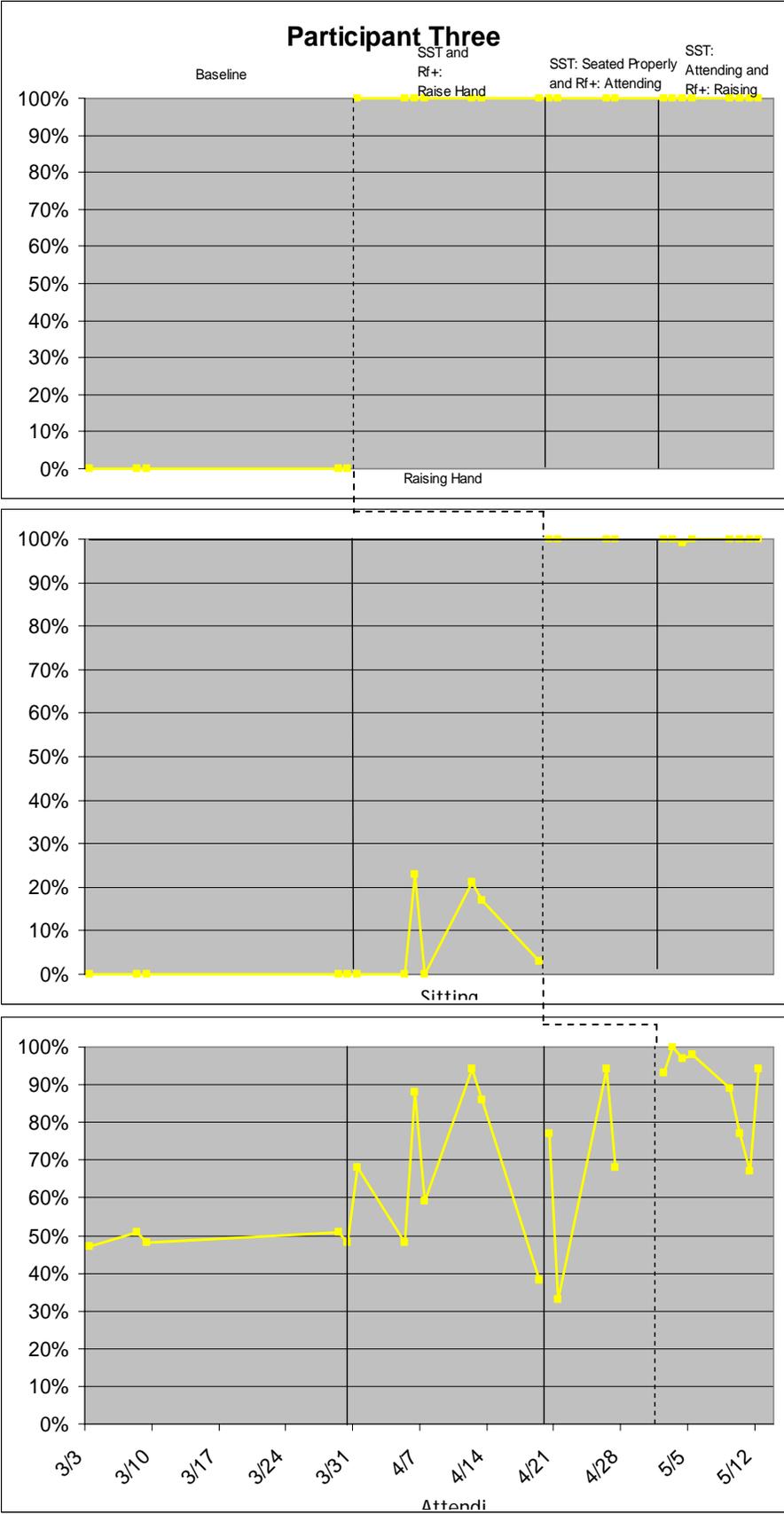
Figure 10. Participant Four Data.
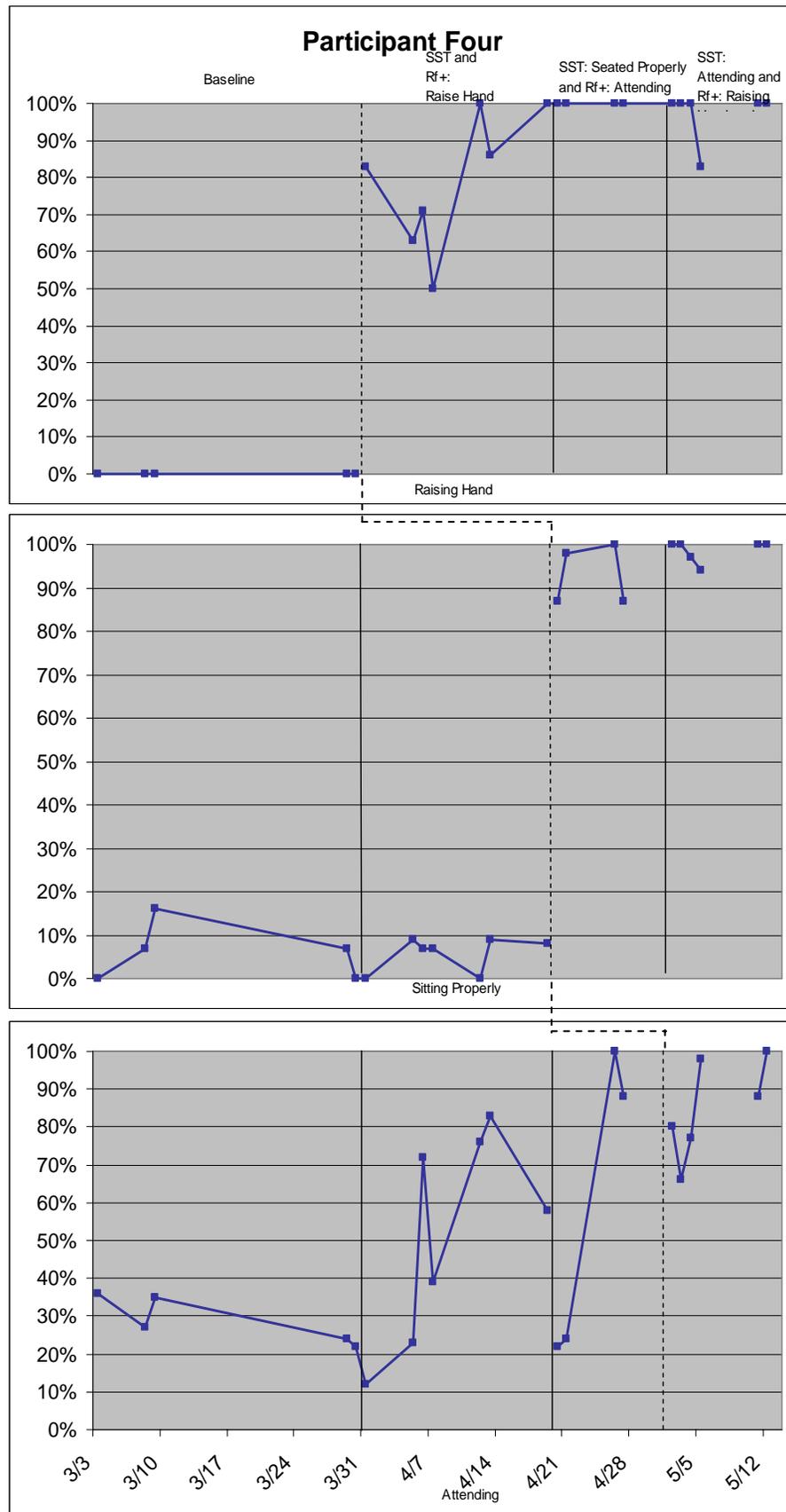
CHAPTER FIVE

Discussion

Introduction

The present study investigated the extent to which social skills training improved the prosocial behaviors of elementary males in an after school program. The present study also examined the differential effects of the direct instruction and reinforcement components of social skills training. This discussion will address the findings of the present study, consistency of the finding with previous research, and limitations in the design of the present study that affect interpretation and generalization of these findings to other populations. This discussion will also address implications for implementing social skills training in an after-school program, as well as implications for future research.

Discussion of the Findings

The data presented in Chapter Four indicate several trends. First, the combination of the direct instruction and reinforcement components did have a significant affect on the behavior of raising hand. As discussed in the previous chapter, the data indicate a large increase between baseline and intervention phases for that behavior.

Second, the direct instruction component of social skills training did increase participants' prosocial behavior of sitting properly. Data after the implementation of the direct instruction component indicate significantly higher levels of sitting properly than during baseline phase.

Third, there is not sufficient data to indicate whether the reinforcement component alone influenced any of the behaviors in the study for participants as a whole.

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However, there were some effects noted with individual participants. Reinforcement was part of an intervention package that maintained consistently high levels of behavior across all three behaviors. In addition, when reinforcement alone was added to the behavior of attending, a desirable change was noted. However, it is not possible to conclude that these results are attributable to the reinforcement component as the behavior of attending had already begun to change during baseline.

Fourth, some general intervention effects were likely an influencing factor with at least the behavior of attending. Attending began to increase during baseline phase. Although attending continued to be strengthened after the implementation of interventions, it did not improve at a faster rate than it had during baseline. While social skills training may have influenced attending, then, it was not the only factor involved.

Overall, social skills training as a whole was successful in improving the behaviors of raising hand and sitting properly. It also may have had an influence over attending. However, the results with attending are less certain. Strong evidence exists that the direct instruction component was a powerful part of social skills training. Limited data prevent a similar conclusion for reinforcement, though some effects were noted. Nevertheless, the social skills intervention package as a whole resulted in a clinically significant effect on behavior in that participants, for the most part, were on-task over 70% of the time at the end of the study.

Possible Explanations for the Present Findings

Several factors may have contributed to the outcomes in this study. The factors can be separated into two categories: (1) social skills training factors, and (2) factors related to the measurement of the dependent variables.

Social skills training factors. There may be several reasons why the improvement and maintenance of the targeted behaviors occurred. Before the implementation of social skills training, participants may have lacked important behavioral and cognitive skills needed to produce high frequencies of the target behaviors. In addition, participants may not have known sufficiently where and when to use the target behaviors. For children that might have had these skills, they may have lacked sufficient practice or feedback that would have facilitated competent performance of each skill. The participants also might have been experiencing high rates of interfering behaviors or thoughts that prevented the use of the target skills.

The participants may have acquired competency in the target behaviors and their knowledge of where and when to use them during the social skills training sessions held weekly (Elliot & Gresham, 1993; Sheridan, Hungelmann, & Maughan, 1999). Participants were taught the distinct behavioral and cognitive steps of each expected behavior. Participants were then given the opportunity to practice each step and skill both in the social skills training session and during homework time at the after school program.

In order to further generalization, two factors were included in the social skills training intervention. First, the "Stop & Think" language was used in both the social skills training sessions and during homework time. More specifically, staff and volunteers in the homework help area were instructed to use the same language to prompt the use of newly acquired social skills as the language being used during the social skills training sessions. Second, the model and role play scenarios were selected to match actual scenarios that occurred during homework time at the after school program. These

procedures were intended to further generalization into the homework help setting (Stokes & Osnes, 1989).

Participants previously may not have found it reinforcing to use the targeted social skills. They may not have understood the connection between social skills and reinforcement, or the environment may not have been naturally reinforcing of the targeted social skills. For example, prior to implementation of the interventions, there was no reinforcement system during homework time. In addition, verbal praise was seldom given for performance of the targeted behaviors. Implementation of the reinforcement procedures may have modified the environment to be more reinforcing of the targeted social skills.

Other trends in the data were also observed. At the beginning of the study, the behavior of attending was consistently at or below 50% for all four participants, with no visible trend in either direction. Over the course of the investigation, rates of attending became consistently high (e.g., all data points above 65% during direct instruction of attending). However, these increases began to occur before any intervention targeted at attending was implemented. Specifically, as soon as social skills training was implemented for raising hand, attending data also began to increase. This increase occurred steadily throughout the study and did not appear to be affected by the addition or subtraction (reinforcement was withdrawn for attending during the last phase) of any condition. There may be several reasons for this trend.

First, the beginning of intervention implementation for raising hand might have served as a signal to the staff that higher levels of behavior in general were expected. Staff might have increased the frequency or quality of other unrelated behavior

management practices as a result of the knowledge that the researcher was expecting behavioral improvement. This might have occurred because they knew they were being watched and wanted to improve their own performance as staff members. It is a general trend that people tend to change their behavior when they know that they are being observed (Kazdin, 1982). In addition, it could have occurred because the staff members were interested in improving the behavior of the participants and subsequently increased their efforts with behavior management.

The possibility that staff members might have made a concerted effort to improve overall behavior seemingly would have affected the behavior of sitting properly as well. Sitting properly, though, showed little improvement during the time that attending began to rise. It may be that attending was considered by staff as a more general behavioral index, and was the focus of unrelated interventions more frequently. For example, it might have been more common for staff or volunteers to approach a child and encourage him to "get back to work" more frequently than to sit in one's seat properly. Informal observations during data collection confirm that the children, at least, had this perspective.

Throughout the study, the researcher frequently discussed expectations and appropriate behavior with the participants. All four participants frequently over-generalized expectations of their behavior. For example, when asked what was needed to earn reinforcement for a particular day, a participant might have said "be good and do my work," when all that was required according to the study was to sit properly in one's seat. The participants were always corrected, but continued to over-generalize what was expected of them during homework time.

The expectations inherent in each targeted social skill did not overlap. In other words, the same expectation could not be found in more than one behavior. An increase in raising hand would not automatically result in an increase in attending. However, there might have been an informal association between the targeted variables. Specifically, once the participants began raising their hands before getting out of their seats, they spent significantly more time in their seats. This might have created additional opportunity for participants to engage in an appropriate task, thus increasing their attending behavior.

Measurement of the dependent variables. Several factors related to the methods of measurement of the target behaviors might have accounted for the results in this study. First, direct observations occurred during the same time and activity (homework time) each day. However, homework time was run differently on different days. Staff sometimes held large group activities or helped the entire group with the same homework assignment. Other times, staff helped individual children while the rest worked independently on homework. Staff also varied in their use of behavior management techniques. Some days staff would issue a large number of directives and punishment, for example, while other times the staff would be relatively unengaged in terms of behavior management. In addition, staff might have reacted to the researcher's presence as an observer by increasing their efforts in behavior management, compared with times when the researcher did not serve as the observer. These variances might account for some of the variability in the data.

Variability in the raising hand data may be attributed to the method of calculating the percentage of time raising hand. If the participant got out of his seat only one time, and raised his hand to get out of his seat no times, then the participant was considered to

have raised his hand 0% of the time. However, if the participant got out of his seat once and raised his hand for that occurrence, then the participant was considered to have raised his hand 100% of the time. This method of reporting the data is, at times, oversensitive to small changes, resulting in the presentation of the data as more variable than if it would have been presented in a different format. In the future, this type of variability might be reduced by expanding the number of behaviors contributing to each data point. This might be accomplished by collapsing multiple observation sessions into one data point, expanding observation periods, or increasing participants' opportunities to engage in the behavior by artificially creating more stimuli for the behavior to occur.

Inconclusive results regarding the behavior of attending may be due to the researcher moving too quickly from baseline phase to intervention phase. The data were not stable, but rather were moving in the direction of intended intervention effects. Ideally, the researcher would have continued to collect baseline data until such data had stabilized. The researcher, however, had to move into intervention phase in order to complete data collection by the end of the time period allotted for the study. As a result, it is not possible to draw firm conclusions regarding the differences in the data in different phases for this behavior.

Each participant in the study was located in a different part of the room, which may have influenced the results of this study. Some participants were located closer to the staff. Some were located closer to other children in the room, while one was seated at his own table. Seating patterns also changed slightly throughout the study, possibly influencing results. Informal observations did not reveal any changes that produced any

known trends in the data, yet the possibility still exists that the results were influenced by these changes.

Consistencies with Established Research

The findings in this study support the assertion that reinforcement can be a part of an effective intervention package to increase social skills (Bierman, Miller, & Stabb, 1987). These authors also investigated response cost used independently and in combination with reinforcement and found that a combination of the two produced the most effective results. Similarly, reinforcement was found to be effective when used in combination with another intervention component in the present study. Bierman, Miller, and Stabb, however, were able to isolate reinforcement as a variable more effectively.

Lochman, Lampron, Gemmer, Harris, and Wyckoff (1989) investigated the use of modeling, role-playing, discussion, social problem-solving training, and self-instruction to improve social skills. On all dependent measures, they found the interventions to be successful in increasing the occurrence of prosocial behaviors. These results are comparable to the results of the present study. In addition, many of the methods used to increase the social skills of the participants were also used in the present study.

Mize and Ladd (1990) also found that modeling and role playing in a pull-out session similar to the one used in the present study increased the number of prosocial behaviors exhibited by participants. Mize and Ladd used puppets to model the appropriate behaviors, but children participated in role plays of a similar fashion to the ones used in the present study. In addition, the researchers videotaped the role plays and used them to provide performance feedback to the participants.

Social skills training can be conducted in a variety of formats and settings. There were many different studies that demonstrated significant improvements in prosocial behaviors using different techniques (Ang & Hughes, 2001). This trend of equifinality might suggest that there are certain core components of social skills training, such as modeling and role-playing, used in many effective SST programs. However, the specific way in which these elements are applied in each study vary. This variability in specific intervention components, then, might suggest that consumers of the literature should not rigidly interpret every element of a study, but rather look for underlying themes consistent across investigations. Consumers of this literature should then adapt these general themes to meet the specific demands of their environment.

The results of this study, overall, are consistent with the literature demonstrating that social skills training can increase prosocial behavior (Ang and Hughes, 2001). However, the results of this study extend the literature base in that social skills training has not yet been investigated in the literature in after school program settings.

Limitations and Threats to Validity

Several limitations that were inherent in the design of the study may have accounted for some of the findings, and jeopardize the interpretability and generalization of these results to other populations and settings. These issues include sampling procedures, reactivity, presence of the researcher, observer drift, failure to include a peer comparison, participant variability, and external events.

Sampling procedures. The participants for the present study were not selected on a random basis. Rather, they were selected through the systematic process of identifying children in most need of social skills training. The final gating procedures involving the

use of the social skills rating form and behavior observations more objectively narrowed the range of participants down to four. However, the initial selection of the eight potential participants was done using only staff recommendations. No measures were in place to control for biased selection of participants. There is no way to determine, therefore, if the initial eight participants were selected based on the criteria outlined by the researcher, or whether hidden variables (personality, academic performance) were used by staff to make their recommendations. The occurrence of social skills deficits, though, was ensured using the social skills rating form and behavior observations.

Reactivity. The researcher served as one of the data collectors in the present study. This may have influenced the behavior of both the staff and participants. Both the staff and participants might have modified their behavior because of the presence of the researcher. Upon implementation of the interventions, participants may have associated the researcher with the interventions, and may have felt more compelled to engage in the target behaviors. However, the researcher was frequently present even when other data collectors were used. The presence of the researcher likely had uniform effects, then, across all of the data. In addition, the researcher had been attending the homework sessions for approximately four months on a daily basis prior to the collection of baseline data in order to reduce reactivity. Both the staff and participants had ample opportunity to acclimate to the presence of the researcher.

Observer drift. Several inter-observer agreement checks were conducted throughout data collection to measure any potential drift. One follow-up training session was conducted at the request of one data collector in the middle of study. Inter-observer

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agreement was not conducted during each phase of the study, however. Therefore, observer drift was a possibility. However, when measured, no drift was detected.

Failure to include a peer comparison. No control participants were included in the study, which has resulted in an inability to compare the behaviors of children receiving the intervention with children not receiving the intervention. However, experimental control was achieved using a multiple baseline across behaviors design as discussed previously.

Participant variability. While efforts were made to match participants based on selected demographic variables, some important differences between participants were still present. One participant, for example, began learning English upon enrollment in school several years prior. Previously he had spoken primarily Spanish. Another participant was undergoing a medical evaluation for the consideration of psychopharmacological interventions for behavior problems at school, while the others were not. These effects might have had an uncontrolled effect on the findings.

External events. This study occurred over the course of several weeks, and did not control for the occurrence of events outside the study. Some of these results may have influenced the findings. Standardized testing occurred during two weeks of the study, for example. Stress and a lack of homework are two potentially present factors during these two weeks which may have influenced data collection. In addition, the after school program was evolving as well. Throughout the course of data collection, staff attempted several different behavior management techniques independent of researcher efforts. In addition, the composition of the staff changed during data collection – several new individuals became staff and some moved on. However, the staff conducting the

homework sessions of the participants remained the same throughout the entirety of data collection. There were days, however, that substitute staff members were present in the event of regular staff absence. This may have affected the findings.

Staff Training. The presence of an individual with doctoral-level training in behavioral interventions might limit the external validity of the findings in this study. Social skills training may not be adapted and implemented as effectively in other after school programs without the same resources.

Implications and Future Directions

The present study was conducted in an era of uncertainly surrounding the effectiveness of after school programs. The proliferation of ASPs has been sudden and sure, yet their worth remains relatively unproven in a time of increased accountability in education and youth development (BGCTB, 2003; FDOE, 2004; Hillsborough County Recreation and Conservation, 2003; SDHC, 2004; YMCA,2003). Only recently have studies been conducted to determine whether the public should continue to take stock in these new educational endeavors. The present study adds to this literature base, helps answer several questions, and raises several challenges to those who influence after school programs.

The results of this study, while somewhat variable, do indicate that a psychological intervention (social skills training) can be used effectively in an after school program. This study adds to the relative dearth of existing studies making such a statement. More broadly, this investigation helps science to respond affirmatively to the question of whether after school programs can work to educate children. The present findings help assert that after school programs can experience success.

These findings also help assert that after school programs can measure this success using traditional research methods. This truth creates possibilities for after school programs in that it might enable its proponents to see yet another color in the spectrum of opportunities available in program evaluation. However, it also creates responsibility. As more sophisticated forms of program evaluation are used in after school programs, less impressive forms will cease to suffice. Simply measuring the number of participants served and the average GPAs of participants soon will no longer bring the money it once did. Programs will be required to show that more is being done with the enormity of wealth being invested in programs.

However, supporters of after school programs are also challenged by the results of this study in that, in order to fulfill expectations, after school programs need resources. Most after school programs do not have the assistance of a researcher with doctoral training in social skills training. If the expectations are to be raised, then the resources must be raised as well. Supporters are now more aware of the potential of such resources – the benefit of investment in after school programs is less deniable.

The necessity of resources in after school programs similar to those available in the present study does not mean that individuals with doctoral level training need to be present in every after school program. There are more creative and financially feasibly ways of addressing resource limitations, such as improved connections between the research base in education (and those who understand this research base) with those that structure the content of after school programs. For example, if a school district sponsors a series of after school programs around the district, it might be possible for a team of well-trained individuals in the district to infuse of set of guidelines regarding behavior

management into after-school programs. Another example would involve staff of after school programs being invited to teacher in-service trainings.

The findings of this study also help establish the assertion that after school programs should stay focused on quality rather than quantity. While quantity is important (kids do need supervision after school), focusing on rapid growth will likely result in a lower quality of programs. Basic goals such as supervision might be achieved. However, in an age of accountability, those examining the cost effectiveness of after school programs will want to see more. If expanded too rapidly, after school programs might not be able to deliver desired results. Controlled growth, with a concerted effort on establishing high quality, will systematically build trust in after school programs and open doors for future expansion and long-term stability.

The findings of this study help support the premise that, if given appropriate resources, after school programs can be an integral partner in the delivery of educational and psychological services. The data also add to the growing awareness that school psychologists can be used in settings other than schools. School psychologists are beginning to establish their importance in settings such as hospitals and mental health centers. This expansion of service delivery does not need to stop there.

Furthermore, if educational and psychological services are to be expanded into new domains, there needs to be increased coordination between those providing these services. Mental health agencies, schools, churches, after schools programs, hospitals, and all organizations participating in this collaboration will need to become more organized around their common mission of improving the educational and psychological

well-being of their clients. School psychologists that understand the importance of collaborative consultation and systems theory can be integral in this process.

As this is the first study that was found to investigate social skills training in an after school program, and one of the first to investigate evidence-based psychological interventions in after school programs, further research is needed to confirm the findings in this study and build a more broad evidence base regarding other psychological interventions in after school programs. The generalization of psychological interventions from school settings to after school program settings is not automatic, and must be investigated more systematically to further explore the possibilities present in using after school programs as settings for psychological and educational interventions.

More specific to social skills training, future research should further investigate practical yet effective ways of implementing social skills training in after school programs. Small pull-out sessions such as the ones used in the present study may not always be feasible given the resources and configurations of after school programs.

Future research also should investigate more effective ways of measuring intervention integrity regarding social skills prompts by staff. Intervention integrity might be measured by observing the degree to which staff issue prompts following the occurrence of undesirable behavior.

In addition, future research should investigate methodological issues surround program evaluation and the establishment of evidence-based practices in after school programs. After school programs might need different technology, have different goals than schools, and have different resources. These distinctions will require an examination of effective yet feasible research methods in after school programs.

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Appendices

Child's Name: _____

Staff's Name: _____

Directions:
Please fill in the following information on the child listed above. To fill out this form, you will only need to write one number in each of the grey boxes below. In each box, put a number 1 through 5 which describes how often the child shows the behavior listed.

5 = Always   4 = Frequently   3 = Sometimes   2 = Infrequently   1 = Never

How often does the child above…

- ⬜ Pay attention.

- ⬜ Sit in his seat properly

- ⬜ Stays in assigned area (e.g., seat) when expected.

- ⬜ When an adult speaks to the child, the child looks at the adult

- ⬜ When sitting down, has his buttocks completely on the seat and squarely faces the table.

- ⬜ During homework time, the child stays in his seat unless given permission to get up.

- ⬜ Look at his homework during homework time.

- ⬜ Keep all four legs of his chair on the ground.

- ⬜ The child does not get up from his seat without permission.

- ⬜ When an adult speaks to a group containing the child, the child looks at the adult.

- ⬜ Keeps both legs facing forward when sitting in his seat.

- ⬜ When working on homework, the child does not get up out of his seat to pick up objects, talk to friends, or approach the coach without raising his hand and asking first.

Thank you for your participation.

Initials:_____   Date:_____   Observer:_____

A = Attending (quiet, looking at work, in seat) (momentary time sampling)
N = Not seated corrected; S = Seated correctly (mark no letter if child is not in seat area)
/ = Not attending and not in seat

:10	:20	:30	:40	:50	:00	:10	:20	:30	:40	:50	:00

- = Left seat; + = Left seat after raising hand

Raised hand before leaving area/seat.

Attending: _____/_____.   Seated correctly: _____/_____.   Raising Hand: _____/_____.

Data Collection

Initials:_____   Date:_____   Observer:_____

A = Attending (quiet, looking at work, in seat) (momentary time sampling)
N = Not seated corrected; S = Seated correctly (mark no letter if child is not in seat area)
/ = Not attending and not in seat

:10	:20	:30	:40	:50	:00	:10	:20	:30	:40	:50	:00

Raised hand before leaving area/seat.

- = Left seat; + = Left seat after raising hand

Attending: _____/_____.   Seated correctly: _____/_____.   Raising Hand: _____/_____.

Appendix 3
Interview Guide – Behavior Identification

Date: 7 December, 2004
Interviewer: Robert Caples
Interviewees: Various staff.

This interview guide is to be used when interviewing staff regarding the selection of target behaviors for this study. The interview will be conducted with the entire staff at one time.

1. Explain purpose of selecting behaviors specific to this particular site. Explain criteria for selection of behaviors. This includes social validity (importance to staff), frequency, opportunity to observe in as many settings within the program as possible, and behaviors which are easily observable and measurable. *This was done.*

2. Ask group to brainstorm behaviors. List behaviors below:
   Not following directions, paying attention during homework, talking back, getting upset easily, self-control, getting out of seat, hands on others or hitting, lying, sitting in seat properly

3. Ask group to narrow down this list of behaviors according to criteria above. Interject observations about the ability of the selected behaviors to meet the criteria above. List the final three behaviors below:
   1. *Attending*
   2. *Staying in seat*
   3. *Sitting in seat properly*

4. Provide the group with an explanation of behaviorally descriptive terminology. Ask the group to write the three behaviors selected above in behaviorally descriptive terms.
   1. *Eyes on staff, mouth closed, body still.*

   2. *The child keeps his buttocks on the seat.*

   3. *The child keeps his whole buttocks on the seat, faces forward, chair aligned to desk, and all four chair legs on the floor.*

5. Provide the group with an explanation of replacement behaviors. Ask the group to write the three replacement behaviors for the target behaviors above, providing both examples and non-examples for each behavior.
   1. Attending – *child is looking at approved materials during homework time. If staff is speaking to the target child or to the group, the child is also considered attending if looking at the adult. Examples include looking at homework, looking at coloring sheet if approved, looking at adult when*

being given an individual instruction, and looking at an adult when the adult is giving an instruction to the entire group. Non-examples include looking at a piece of paper that is not approved by the staff member and looking at an adult who is speaking individually to another child.

2. Stay in Seat – *child keeps buttocks in chair with the chair located in the assigned area; child stands next to chair in appropriate area. The child may leave with permission. The main goal is for the child to stay in his assigned area. It does not matter how the child sits in his chair or stands in his area. Examples include sitting in the chair at the desk and standing behind one's chair. Non-examples include standing behind another child's chair, sitting in one's chair when that chair is placed in an inappropriate location, and getting up without permission.*

3. Sitting in Seat Properly – *child keeps entire buttocks on seat with the chair facing forward, all four chair legs on ground, and legs in front of chair. Examples include sitting in seat with legs facing forward and chair facing forward with all four chair legs on the ground. Non-examples include sitting with legs hanging off the side of the chair, sitting with half of one's buttocks on the seat, leaning back in one's chair, and sitting in a chair not facing directly toward one's table.*

Appendix 4
Interview Guide – Participant Selection

Date:　　　　7 December, 2004
Interviewer:　Robert Caples
Interviewees:　Staff at after-school program site.

This interview guide is to be used when interviewing staff regarding the selection of participants. The interview will be conducted with the entire staff at one time.

1. Explain the criteria for selecting participants. This criteria involves the low frequency of the occurrence of the replacement behaviors previously identified using the interview guide in Appendix 3. Participants also need to be of the same ethnic/racial group, within any 2 year span (for example, 9-10-year-olds) inside the parameters of the 8-11-year-old range, and of English-speaking background. *This was done.*
2. Remind the group of the three replacement behaviors selected. Ask group to brainstorm potential participants who they believe might exhibit low levels of these behaviors. List these names below.

Ten names were recorded here.

3. Ask group to narrow down this list of potential participants according to criteria above. Interject observations about the ability of the selected potential participants to meet the criteria above. List the final eight potential participants below:

    1. 　　　　　　　　　　　　5.
    2. 　　　　　　　　　　　　6.
    3. 　　　　　　　　　　　　7.
    4. 　　　　　　　　　　　　8.

Eight names were recorded here.

4. Go over each selected potential participant a final time and confirm that staff agree that each potential participant is likely to meet the criteria listed above. In addition, ask staff a final time if there are any other likely potential participants.

This was done.