David – you have earned all points on this paper, on your presentation, and for the semester. You are a member of my century club (which means you earned all 100 points – and not many students are in that club!) which means you earned an A for the semester… Truly outstanding work!

I think you have demonstrated a terrific grasp of the concepts of synthesizing literature through this project. Your writing style is excellent. I made some minor technical points throughout your paper. If I were to provide feedback for a manuscript to be submitted to a journal this is what I would say:

1. Focus more on descriptions of the interventions throughout the manuscript.. this is a synthesis of interventions in an area and we need to be sure the reader doesn't forget that. Include more detailed decriptions of the interventions and cite the specific papers reviewed.
2. Collapse more relevant data into the tables, but be sure to use APA 6 format. The first table with study characteristics can include many more variables of interest to provide a better overall description of the studies in a single table… I tried to include some ex. On your current table.
3. Think about present breakdowns and analyses in this orider, keeping in mind your are synthesizing intervention studies:
    a. Intervention approach effectiveness first (DI vs.. others)
    b. Intervention characteristics (duration, length intensity)
    c. Sample characteristics (disability status, age/grade)
    d. Dependent measure
    e. Quality – then the breakdowns by high med low across everything

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Anyway, just some thoughts because you should definitiely continue to work on this, revise somewhat and submit.. I would be more than happy to assist if you neeed any help… from the looks of everything, however, you are off and running all on your own.

It was a pleasure to get to know you this semester and keep in touch.

Margo

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The Effectiveness of Social Skills Intervention Strategies for Students with Disabilities: A Synthesis of Research from 2000-2010

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Abstract

Students with disabilities and who are at-risk for disabilities frequently have difficulty with social skills. This meta-analysis synthesizes the findings of social skills intervention studies published from 2000-2010 (N=10). Major approaches to instruction included …, …, and …. Each study is evaluated by quality indicators and the relationship to the findings is discussed. Results indicate a variety of social skills intervention studies have been published targeting students with autism, ADHD, and who are at-risk for developing disabilities. The majority of the studies ~~were~~ employed single-subject designs focusing on students in the elementary grades. There is little ~~consistency~~ consistency across studies in the types of intervention and the specific skills ~~they are targeting~~targeted. The implications for research, practice, and policy ~~these findings~~ are discussed.

The Effectiveness of Social Skills Intervention Strategies for Students with Disabilities: A Synthesis of Research from 2000-2010

Introduction

Students with disabilities or who at-risk for developing disabilities frequently have difficulty with social skills. Specifically, they may have acquisition deficits where they lack the specific skill or they may have performance deficits where they refuse to use the skill (Gresham, Cook, Crews, & Kern, 2004). Social skills is a broad topic where studies have focused on the effectiveness of developing both acquisition and performance deficits of specific skills . The recent positive behavior intervention support model for helping students has utilized social skills instruction for students who are at-risk of developing emotional or behavioral disorders (Lane, Wehby, Menzkies, Doukas, Munton, & Gregg, 2003).

The effectiveness of a multitude of social skills interventions have been studied and previous meta-analyses have indicated mixed results regarding the effectiveness of social skills interventions (citation). A potential explanation for the ~~mixed results~~equivocal findings is a lack of fidelity or quality associated with the implementation of social skills interventions. Previous research has not evaluated the implementation of interventions such as modeling, coaching, or

Comment [MM1]: David, I didn't see the word frequently here when I inserted it into the abstract. Maybe say here "often exhibit challenges…"

peer assisted strategies rather it has been focused on ~~the~~ tmore global outcomes of ~~developing~~ improving social skills. Challenges also exist with the assessment of generalization and maintenance of social skills interventions (Maag, 2006).

A lack of fidelity or quality indicators makes it challenging to interpret the results of social skills intervention studies. A study may present a strong effect though is poorly designed making it difficult to determine if a threat to internal validity is responsible for the treatment effect. Several researchers have developed quality indicators for single subject and group experimental designs in an effort to create a definition of evidence-based practice (Gersten, Fuchs, Compton, Coyne, Greenwood, & Innocenti, 2005; Horner, Carr, Halle, McGee, Odom, & Wolery, 2005). Jitendra, Burgess, & Gajria (~~2011~~in press) used these quality indicators to evaluate intervention research on reading comprehension.

Mathur et al. (1998) ~~conducting~~ conducted a meta-analysis of single-subject design studies for social skills interventions. The mean percent of nonoverlapping data (PND) was calculated from the 64 studies in the sample. Findings indicated a majority of the studies being conducted on students with emotional or behavioral disorders yielded a ~~(~~mean PND ~~=~~ of 64~~%)~~, autism yielded ~~(~~mean PND ~~=~~ of 54%), or delinquency issues (mean PND = 76%). The studies focused on interaction skills (mean PND = 66), communication skills (mean PND = 59), and Social Behavior (mean = 63). One of the potential explanations for these you mean “lower”, correct? PND is a lack of fidelity in implementation and poor external validity. I think the argument would be better made regarding study design, rather than lack of fidelity, because the study design can be evaluated in the absence of fidelity -- Did Mathur report fidelity by study?

The present study will use similar search procedures used by Mathur et al (1998) to evaluate the intervention research conducted on social skills instruction from 2000 to 2010. In

addition to single-subject designs, the present study will also include group-experimental designs. Similar to Jitendra et al . (2011) the present study will evaluate the overall quality of each study based on the quality indicators for single subject and group experimental designs. The study will ~~attempt to answer the~~address the following questions: What type of social skills intervention research has been published from 2000 to 2010, what is the relationship between the quality indicators and the reported effect of the study, and what interventions are beneficial for specific skills~~.~~?

Method

Literature Search Procedure

Studies were selected by searching the PSYCINFO database ~~for~~ using the descriptors behavioral disorders, emotional disorders, seriously emotionally disturbed, disruptive behavior, social behavior problems, ~~-~~autism, conduct disorders, social competence, and other social behavior problems. Each of these searches was conducted for peer-reviewed articles from 2000 to 2010. The number of articles was reduced ~~for~~ by adding the additional descriptor of special education for all of these descriptors except for seriously emotionally disturbed. Previously ~~Based on~~ identified social skills intervention researchers~~, the authors~~ including Forness, Greenwood, Gresham, Lane, Montague, Myles, and Walker, were also searched in the PSYCInfor database ~~from the~~from the years 2000 to 2010. Finally, the journals *Remedial and Special Education, Exceptional Children, Behavioral Disorders*~~, and~~, and *Journal of Emotional and Behavioral Disorders* were searched by hand for the years 2000 to 2010. Reference lists of obtained articles were also examined for relevant studies. – am assuming you did this, too.

Criteria for i~~I~~nclusion. The titles and abstracts of the studies from the literature search were reviewed to identify relevant studies. Studies were included ~~in the sample~~ if they ~~measured~~

assessed the effectiveness of a specific intervention on changing social skills for students at risk or with disabilities from preschool through secondary school. The effectiveness of social skills interventions included both group experimental and single subject designs.

Criteria for eExclusion. Studies were excluded if they ~~either were~~were conducted on students outside of the United States, or provided insufficient ~~did not provide enough~~ details to calculate an effect size or percentage of nonoverlapping data, or only had one participant – I remember you said you were doing this, but I fogot why? How many studies were eliminated for having only a single subject??? For your article I would recommend including them. Studies that measured the effectiveness of social stories were also excluded (e.g., citation example) ~~to focus on studies that determine the effectiveness of generalized social skills.~~ Studies measuring social competence, but not intervening on social skills were also excluded (e.g., citation example).~~to focus on the development of specific social skills~~.

Final sSample see APA for indented paragraph headings. The above procedures resulted in a sample of 16 studies. For the purpose of this paper, ten studies will be analyzed. These studies were from *Journal of Research in Special Education, Research in Autism Disorders, Journal of Autism and Developmental Disabilities, Journal of Emotional and Behavioral Disorders, Education and Treatment of Children, School Psychology Quarterly*, and *Behavioral Disorders*.

Coding Instrument

A coding instrument (Appendix A) was developed based on the demographic, intervention, and dependent variables from all of the articles. Coding rules were developed to operationalize each of the variables for comparison and analysis. Based on the purpose of this paper, studies were only coded by one person and therefore coding reliability could not be

established. For the article describe the major components of the coding sheet here. For class what you have done is excellent. Provide sufficient details so a reviewer will understand the major categories of coding you completed. Also describe any uniq coding conventions, for example, this is where I might describe the criteria developed and implemented for quality.

Coding Procedure

Ok, this would go under coding sheet and conventions, rather than procedure. Think about procedure section as describing the coding itself. "One coder read each article and coded each article item byt item. Two coders read 35% of the articles, met and discussed findings in order to complete a percent of agreement or reliability of coding….. was The coding rules consisted of defining each variable for consistent coding. The title and publication year of each study was taken from the first page of the article. The total number, gender, IQ, and race of the students were taken from the methods section. Additional demographic information was provided with the results of specific assessments to describe the characteristics of the students in some studies. Though there was little consistency amongst the assessments, they included the Vineland Communication, Vineland DLS, Vineland Socialization, Vineland Motor Skills, Vineland Composite, CARS, Conner's Score, SSRS, CEI, and CFI. The Vineland Composite was calculated for several studies based on the average of the subtests reported in the methods section. In the single subject design studies, the participants scores were taken directly from the methods section of each to generate a single score for each study..

The grade level for each study was determined by taking the average of the grade levels reported in the methods section. To account for preschool and Kindergarten, grade level values were changed so that 1= Pre-school, 2=Kindergarten, 3 = 1st grade and so on until 14 = 12th grade. . Grade levels were then rounded to the nearest whole grade to allow categorical

assignment for analysis. The average age of the students was calculated by averaging the ages of all the students in each study and reporting it in months. Studies with students whose average age was less than 96 months were considered younger and studies with students whose average age was 96 months or higher were considered to have older students. The number of students in special education were coded as reported in each article and the education services type were general education with pull out services, general education only, self-contained classroom and various. General education with pull out is defined as students who receive the majority of their education in the general education environment but are pulled out to receive some of their services in a resource room. General education only is students who are either not identified as receiving special education services or are receiving all of their services in an inclusionary general education setting. Students receiving services in a self-contained classroom receive all of their special educational services within a self-contained classroom. Various is defined as having participants who may be receiving services in different types of settings to include general education, pullout, and self-contained classrooms.

The disability categories were autism spectrum, students both with and without exceptional learning needs, attention deficit disorder with hyperactivity(ADHD), and students who were at-risk. The autism spectrum covered a range of students to include students with autism, pervasive developmental disability not otherwise specified, high functioning autism, and Asperger's disorder. The disabilities categorized under the autism spectrum were identified as they are defined in the *Diagnostic and Statistical Manual of Mental Disorders*, Fourth Edition (DSM-IV, American Psychiatric Association, 1994). Students both with and without exceptional learning needs are defined as studies that contain students who receive special education services and students who are in general education in their sample. Students with ADHD were identified

as they are defined in the *Diagnostic and Statistical Manual of Mental Disorders,* Fourth Edition (DSM-IV, American Psychiatric Association, 1994). At-risk students are defined as students who do not receive special education services but are struggling in the classroom and may be on a trajectory to receive a referral for special education services.

Elementary school is defined as grades kindergarten through sixth grade and middle school is grades seven through eight. The intervention location and intervener were coded as reported in each study. The length of each session is measured in minutes and the length of intervention is the number of weeks the intervention was implemented. Studies that had fewer than 15 sessions were considered to be short interventions and studies with 15 or more sessions were considered to be long interventions.

The intervener was the person directly responsible for implementing the intervention. The intervener was coded as investigator when the studied identified one of the authors would be implementing the intervention. The code teaching team was used when the intervener was a group of people in the school who typically work with the student. Assistant teacher is defined as a paraprofessional in the classroom who was responsible for implementing the intervention. The computer was used as the intervener when the students interacted with a computer program to learn social skills. The intervener peers is defined as students in the target student's class who are directly implementing the intervention. Peers received training on how to implement the intervention and were the person making direct contact with the target student being studied.

The types of intervention were direct instruction, conceptual discussions, functional behavior assessment based interventions, computerized modeling, and peer modeling. Direct instruction consists of a teaching activity where the intervener teaches skills through modeling, in some of these, the investigator will also prompt the students to engage in the appropriate

social skill and reinforce the student when they exhibit the desired behavior. Concept Discussion consists of interventions where the researcher presents a social skills concept to a group and they discuss it in an interactive format with the researcher. Functional behavior assessment based interventions were interventions that identified specific social skills deficits within individual students and developed interventions to teach the skills to that student. Computerized modeling is using a computer to simulate social situations and teaching students how to problem solve. Peer modeling is defined as training a peer to teach a student social skills and having the peer directly implement the intervention. Graduate student is defined as a reported graduate student who was responsible for implementing the intervention.

Dependent variables were measured through observation, norm-referenced tests, and video observation. Observation occurred when the students were being directly observed and data was being collected in real time as opposed to video observation where the data was obtained from a video recording allowing the researcher to play back different scenes to determine if they captured the data correctly. The norm-referenced test was a large assessment such as the Social Skills Rating Scale (SSRS) that measured the social skills of the students. Blind data collection, maintenance, and generalization were coded as they were reported in each study. Time after intervention for maintenance was measured in weeks.

The dependent variables were conversation skills, social interaction, generic social skills, total disruptive behavior, NSI?, and alone time. I would use past tense in describing these, as that is how items were operationally defined and used, rather than present tense. Conversation Skills wascan be defined as initiation, responding, responding to questions, and reading facial expressions. Social interaction skills wascan be defined as interactions that are not focused specifically on conversation such as sharing, turn-taking, and problem solving to reach a

decision. Generic social skills consisted of large studies that used norm-referenced tests and did not focus on a specific skill for all participants. Antisocial behavior skills include the dependent variables of total disruptive behavior, alone time, and negative social interactions. Total disruptive behavior is defined as behavior that disrupts the classroom environment and interferes with instruction. Alone time is defined as the student being socially withdrawn from others by not being near them and not engaging with other students. Negative social interactions are behaviors that are harmful to other such as hitting or cursing at another person.

The measurement point was the data collected from the intervention, maintenance, or generalization phases. Reliability was coded when reported by interobserver agreement (IOA) and was recoded so that IOA less than 92 percent was considered low and IOA that was 92 percent or higher was considered high. Fidelity of treatment was coded when reported and recoded so that treatment fidelity less than 75 percent was considered low, 95 percent was considered medium and 96.7 percent was considered high. Effect sizes were calculated for group experimental ~~desgins~~designs by dividing the difference in group means by the average of the standard deviation s associated with those means. Percent of nonoverlapping (PND) data was calculated by dividing the number of data points from one phase that do not overlap with the baseline phase. In ABAB designs the PND is calculated by averaging the nonoverlapping data from both intervention phases as compared with the previous baseline phase.

The quality of each study was measured using similar criteria to Jitendra, Burgess, and Gajria (2011). A one to three rating scale was developed based on 10 criteria for group experimental designs and 21 criteria for single subject designs. Table 1 describes the quality indicator criteria for the components of a group experimental study and Table 2 describes the

quality indicator criteria for the components of a single-subject design study. **[Insert Tables 1 and 2 about here]**.

A quality percentage score was calculated by dividing the number of points a study earned based on the associated quality indicators by the total number of points a study could earn. Studies that earned at least 90 percent of the points were considered to be high quality. Studies that earned between 80 and 90 percent of the points were considered to be medium quality. A study that earned less than 80 percent of the quality points was considered to be low quality.

Results

The coded data ~~was~~were entered into SPSS for analysis. The overall characteristics of the data set will be presented first. Aggregate effect sizes and PND will be presented for each of the dependent variables and intervention techniques. The overall quality of the studies will be presented next. Finally, the effect size and PND will be presented by study quality, disability, intervention type, grade level, IOA, and fidelity of treatment.

Overall Characteristics of the Data Set

The data set included a total of 276 students including students in general education (N=127), students in special education without a specific identified disability (N=118), students at-risk for disabilities (N=11), students with autism (N=10), and students with ADHD (N=4). A greater number of male students (N=224) were represented than female students (N=52). The overwhelming majority of the 10 studies were single-subject design (N=9). Based on the quality indicators developed for this analysis three studies (30%) met the criteria for high quality, five studies (50%) met the criteria for medium quality, and two studies (20%) met the criteria for low quality. Table 3 summarizes the demographic information by study. The types of assessments

describing the characteristics of the students were inconsistent and therefore data from those assessments yielded inconclusive findings ~~could not be compared for analysi~~s. **[Insert Table 3 about here]**.

The eight studies that reported grade level (80%) indicated the mean grade level for students in these studies was second grade. The nine studies reporting age (90%) indicated an average age of 88.13 months which is years and approximately 2-3 grade level. Unfortunately only four studies reported race/ethnicity information.. The four studies (40%) that reported race indicated 126 (49%) Caucasian students, 77 (30%) Hispanic students, 44 (17%) African-American students, 2 (1%) Native-American students, 2 (1%) Asian students and 6 (2%) students reported as Other.

Six of the studies used direct instruction as an intervention. Conceptual discussion, computerized modeling, FBA based and peer modeling were used once in the four remaining studies. Five of the studies focused on conversation skills, one study focused on social interactions, two studies focused on general social skills, and two studies examined antisocial behavior. Five studies implemented the intervention to students on an individual basis, four studies implemented the intervention to small groups, and one study implemented the intervention to a whole class. The seven studies (70%) that reported the number of intervention sessions reported a range of 8.50 to 40 sessions (mean of … or median of …). The five studies that (50%) that reported the length of each session revealed~~indicated~~ two studies with five minute intervention~~s studies~~, one study with 30 minutes sessions, one study with 50 minute sessions, and one study with 90 minute sessions. Of the three studies (30%) that reported the overall length of their intervention, one intervention lasted 20 weeks, one study lasted 10 weeks, and one study lasted six weeks. Thiese data might be good in a summary table somehow.. when

I finish reading and see everything, I can provide a suggestion re tables that will help reduce the information presented above, and rpesent all of it in a cohesive table.

Nine of the studies used a single subject design and the one group experimental study provided data for both pre-post and A v. B analysis. The single subject studies either employed~~had seven~~ multiple baseline (N=7) or~~and two~~ ABAB reversal (N=2) designs. Generalization was measured in two studies while ~~and~~ maintenance was measured in four studies. Same studies for both???

Effect Sizes and PND

You have done a nice job with this for class. For a paper to be submitted I would recommend having one subheading for group effect sizes and then parallel headings for PNDs. In this case since the overwhelming number of studies are PNDs, I would rpesent those data first. If you only have one group study., I would write it a little differently for the publication.. withonly one study we cannot make many definitive statements, but we can state whether that studies corroborates findings from the N=1 data set..

———The overall effect size was .51 (*SD* = .23) and the mean PND was 76.94 (*SD* = 27.37*)*. The aggregated data indicated a mean effect size of .51(*SD* = .23) for generic social skills. The mean PND for generic social skills was 100 percent (*SD* = 0). The mean PND for the remainder of the dependent variables was 76.25 percent (*SD* = 27.36) for social interactions, 75.36 percent (*SD* = 33.70) for conversation skills, and 74.88 (*SD* = 19.30). Table 4 summarizes the effect size and PND for the dependent variables. **[Insert Table 4 about here]**

The functional behavioral assessment based intervention yielded a mean effect size of .51 (*SD* = .23). The conceptual discussion yielded the largest mean PND of 96.5 percent (*SD* =

8.57). The mean PND for the remainder of the interventions was 79 percent (*SD* =*25*.43) for peer modeling, 72.62 percent (*SD* = 21.03) for computerized modeling, and 70.77 percent (*SD* = 30.54)for direct instruction.

Effect Size and PND by Study Quality

When the data is disaggregated by study quality, the mean PND for social interactions increases to 100 (*SD* = 0) percent for the high quality study and decreases to 60.42 (*SD* = 25.85) percent for the low quality study. The mean PND for conversation skills increases to 86.88 (*SD* = 19.38) percent for high quality and 100 (*SD* = 0) percent for medium quality but decreases to 40 percent (*SD* = 40.24)for the low quality study. The mean PND for antisocial behavior increases to 79.33 percent (*SD* = 12.45) and decreases for the medium quality study to 71.92 percent (*SD* = 23.47). Because there is only one study with an effect size, the effect size remains unchanged when the data is disaggregated. Table 5 summarizes the disaggregated mean PND and effect sizes by quality of study. **[Insert Table 5 about here]**.

Effect Sizes and PND by Disability

Disaggregating the data by disability did not change the effect sizes or PND. The specific dependent variables for each of these studies were designed to benefit the specific disability and therefore the dependent variables were specific to disability type. Might be good to report in a table

Effect Size and PND by Intervention Type

When the results are organized by intervention type, conceptual discussion yields a mean PND of 96.5 percent (*SD* = 8.57) for conversation skills compared to the mean PND for direct instruction of 60 percent (*SD* = 43.95) and the peer modeling mean PND of 58 percent (*SD* = 6.36). Peer modeling for social interaction skills had the highest mean PND of 100 percent (*SD*

= 0) compared to the computerized modeling mean PND of 72.63 percent (*SD* = 21.04) and the direct instruction PND of 36 percent. Table 6 summarizes the effect size and PND data for the dependent variables by intervention type. **[Insert Table 6 about here].**

PND by Interobserver Agreement

When the data was analyzed by IOA, the mean PND increased for conversation skills to 86.88 percent (*SD* = 19.39), social interaction to 86.31 percent (*SD* =19.93), and antisocial behavior to 79.33 percent (SD = 12.45)for the high IOA category. The low IOA category yielded a decrease in the mean PND for conversation skills to 60 percent (*SD* = 43.95), social interactions to 36 percent, and TDB to 71.92 percent (*SD* = 23.47) These findings are summarized in table 7. **[Insert Table 7 about here]**.

PND by Fidelity of Treatment

The mean PND for conversation skills changed very little between the medium and high categories for fidelity of treatment. However, the mean PND for social interaction increased to 100 percent (*SD* = 0) in the high category and decreased to 36 percent in the medium category. Table 8 summarizes all of the results of mean PND by fidelity of treatment. **[Insert Table 8 about here]**

PND by Grade Level

When the data is disaggregated by average grade level, the mean PND for conversation skills increases to 100 (*SD* = 0) percent for kindergarten students and 86.88 percent (*SD* = 19.38)for fifth graders. Social interaction skills also increased to 100 percent (*SD* = 0) for third graders. It is important to note that not all studies reported grade level and other studies focused on conversation skills and social interaction skills had lower PND. The summary of breaking the data down by grade level can be found in Table 9. **[Insert Table 9 about here]**

PND by Age

When the data is analyzed in terms of younger and older students, the mean PND for conversation skills increases to 78.25 percent (*SD* = 38.97) for younger students and decreases to 40.75 percent (*SD* = 27.90) for older students. There is no other basis of comparison due to the limited number of studies reporting age. Table 10 summarizes the data as broken down by age.

[Insert Table 10 about here].

PND by Number of Sessions

Organizing the data by the number of sessions has little impact on the PND for all of the dependent variables. The number of sessions were specific to each outcome measurement and therefore do not change very much when categorized into long and short sessions. Table 11 summarizes the data disaggregated by number of sessions.

Discussion

Similar to previous meta-analyses of social skills interventions, a several different intervention techniques were used to change a variety of social skills. Some social skills deficits were identified for specific disabilities and others were used as preventive measures from developing antisocial behavior. The overall mean PND for the present study of 76.94 percent is higher than the mean PND reported in Mathur et al (1998) but fails to show promise of evidence-based practice that will consistently remediate specific social skills.

Previous research (Maag, 2006) has indicated that social skills instruction is less of an intervention and is more focused on the outcome. Though the outcome is important because it results in changing social skills, it seems appropriate to focus on interventions that are focused on specific skills for different populations. The present study indicates that conceptual discussions are more effective for conversation skills than direct instruction. This seems to be a

reasonable conclusion because the conceptual discussion includes the student and allows them to practice their conversation skills while they are learning about them. Peer modeling was more effective for developing social interaction skills than the computerized modeling or direct instruction. However, it is important to recognize that these three interventions were focused on different populations and there may be an interaction between disability and intervention type that contributed to the effectiveness of peer modeling for social interaction skills. Future research should continue to focus on the efficacy of specific interventions.

However, when looking at the data, it is important to consider other factors that may be influencing the dependent variable. For example, the mean PND for conversation skills changes when the data is disaggregated by age or grade level making it difficult to determine if the intervention or a different variable is responsible for the effect found in the study. Synthesizing ten different studies that use five different intervention techniques to impact four different dependent variables provides a limited amount of constants to analyze. The lack of specific and focused research on either specific skills or specific interventions makes it challenging to draw conclusions about the overall efficacy of social skills interventions.

When the data is organized by study quality, the low quality studies yield lower mean PND than the medium and higher quality studies. Both conversation skills and social interaction skills were greatly impacted by the overall quality of the studies. As the quality for each of these dependent variables increased, the mean PND also increased. Evaluating the research in terms of quality indicators addresses the fidelity and concerns posed by Gresham et al. (2004).

When the level of IOA is examined for each of these variables, higher IOA also indicates a higher mean PND for conversation skills and social interactions. An operationally defined dependent variable and a reliable method for measuring that variable are part of high quality

studies. When the fidelity of treatment categories was examined for conversation skills, there was little change in the mean PND between the high and medium fidelity categories. Therefore, it may be reasonable to conclude that a stronger component of high quality studies in determining a functional relationship between an independent variable and dependent variable is to have a strong operational definition and a reliable measurement technique.

Maag (2006) reports concerns with generalization and maintenance being measured in social skills intervention studies. The trend has continued in the present study with few single subject designs reporting either generalization or maintenance of the skills. In addition to the maintenance and generalization issues, there is a lack of consistency on assessments used to describe student skill levels. The present study analyzed 10 studies that used data from 11 different assessment types with little consistency amongst studies. Though it is easier to work with existing assessment results, it presents a challenge in comparing the effects on the characteristics of students from one study to that of another. In developing evidence-based practice for single-subject designs, Horner et al. (2005) specify the functional characteristics of the population for which the practice will work. In order to accomplish this, future research will require greater consistency in assessment data to allow for equal comparisons of student characteristics.

Finally, previous meta-analyses (Maag, 2006;,Mathur, Kavale, Quinn, Forness, & Rutherford, 1998) have reported studies with students with emotional or behavioral disorders. The present study only found students who were at-risk for developing emotional or behavioral disorders and did not identify any studies focused on students who had been identified with these disorders. It appears that from 2000 to 2010, intervention strategies for social instruction has moved away from studying the effectiveness of social skills instruction on students with

emotional or behavioral disorders and has focused more on students at-risk or on the autism spectrum.

Limitations

The present study is limited by the small sample size, the small number of group experimental designs, and the variety of social skills interventions and dependent variables in the sample. Though the study demonstrated an increase in mean PND from previous research, part of that may be due to the sample size being much smaller than previous meta-analyses. Though it could be concluded that the field has improved their social skills interventions over the last ten years, the low number studies being analyzed may be a contributing factor to the increase. The literature only yielded one group experimental social skills intervention study making it stand alone without comparison. Though that study had a moderate effect size, not having another one focused on the same skills prevents any firm conclusions from being drawn from that intervention technique. Finally, social skills instruction utilizes a variety of techniques for different skills. Given the small sample size, most techniques and skills only had several values associated with them once again presenting a challenge in drawing firm conclusions from them.

Future Research

Future research should continue to analyze the effectiveness of social skills intervention. Replicating previous meta-analyses using the quality indicators method described in this study may help identify different interventions that are more effective than previously believed. Future research should also go beyond looking at the outcomes associated with social skills intervention and should focus more on the specific intervention techniques. A more systematic approach to developing effective strategies and identifying the students that will benefit from them will be beneficial to the field.

Conclusion

Social skills interventions have had mixed results in helping students with disabilities and at-risk for disabilities develop social skills. The present study demonstrates a relationship between the quality of a study and the potential effectiveness of that technique. Specific interventions have also been identified for improving specific social skills. Continuing to test the effectiveness of different interventions with high quality studies will help the field develop evidence based practices to facilitate the acquisition and performance skills of students with and without disabilities. Remediating the social skills of students will help them participate more actively in the learning environment and provide the opportunity to engage their peers in meaningful interactions.

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Appendices

Appendix A

Coding Sheet

APA Citation:

Effect Size Comparisons:

ID						
Journal 1=JORSEN 2=RASD 3=JADD 4=JEBD 5=ETC 6=SPQ 7=BD						
ES						
Year						
Total N						
District Location 1=Western						
Mean Grade Level						
Disability 1=Autism spectrum 3=Students w/ELN + Gen Ed 4=ADHD-HI						

5=At-Risk						
N Students in SPED						
M						
F						
Age (mo.)						
IQ						
Vineland Communication						
Vineland DLS						
Vineland Socialization						
Vineland Motor Skills						
Vineland Composite						
CARS						
Conner's Score						
SSRS Before						
CEI						
CFI						
Education Services Type 1=Pull-out+In-Class 2=General Education Only 3=Self-Contained Classroom 4=Various						
NWhite						
Nhispanic						
Nafrican-American						
Nnative American						
Nasian						
Nother						
School Level 1=Elementary 2=Elementary = Middle						
Intervention Location 1=Special Education Classroom 2=General Education Classroom 3=Separate Room 4=Other						
Intervener 1=Investigator 2=Teaching Team 3=Assistant Teacher 4=Computer 5=Peer 6=Graduate Student						

Nteachers						
Ngen Ed Teachers						
NSPED Teachers						
Myears Teaching						
Number of sessions (Ave if MB)						
Length of session (min.)						
N of intervention group						
Age of intervention group						
Reading Level Intervention Group						
N of Control Group						
Age of Control Group						
Reading Level of Control Group						
Length of Intervention (weeks)						
Randomized 1=Yes 2=No						
Experiment Type 1=Multiple Baseline 2=Pre-Post 3=A v. B 4=ABAB						
Type of intervention 1=Direct Instruction (Modeling + Prompts + Reinforcement) 3=Conceptual Discussion 4=FBA 5=Computerized Modeling 6=Role Play 7=Peer Modeling						
Intervention Group Size 1=Individual 2=Small Group						
Baseline Stabilization 1=Yes 2=No 3=NA						
Interobserver Agreement Measured 1=Yes						

2=No 3=NA						
Interobserver Agreement						
Fidelity of Treatment Measured 1=Yes 2=No 3=NA						
Fidelity of Treatment						
SSRS After						
Dependent Variable Measurement 1=Observation 2=Norm-Referenced 3=Video Observation						
Blind Data Collection 1=Yes 2=No						
Maintenance Assessed 1=Yes 2=No						
Generalization Measured 1=Yes 2=No						
Time After intervention maintenance assessed (weeks)						
Dependent Variable 1=Conversation Skills (Initiation, Response, Responding to Questions, Reading Facial expressions) 2=Social Interaction (Sharing, Turn-taking, problem solving) 6=Generic Social Skills 8=Antisocial Behavior						
Quality/Validity 1=High 2=Medium 3=Low						
Measurement Point 1=Intervention 2=Maintenance						

3=NA 4=Generalization						
Statistically Significant 1=Yes 2=No 3=NA or Not Reported						
Effect Size						
PND						

Appendix B

Table 1

Quality Indicators for Group Experimental Design

Quality Indicator	*Indicator Not Met*	*Indicator Partially Met*	*Indicator Met*
Description of Participants Provides demographic information on participants and their disabilities or difficulties (i.e. age, gender, grade, IQ).	**1** Presents either school identification for disability or external diagnosis. Does not provide any assessment data on present functioning.	**2** Presents either school identification for disability or external diagnosis AND provides at least three demographic variables.	**3** Presents either school identification for disability or external diagnosis AND provides at least four demographic variables with at least one related to social skills.
Equivalence of groups across conditions	Lack of random assignment of either classrooms or participants AND no description of comparability between groups.	Classrooms or participants were randomly or nonrandomly assigned AND demographic information on two variables was presented to assess comparability.	Classrooms and participants randomly assigned AND at least three demographic variables including one for social skills are presented for comparability.

Demographic information of intervention agents (i.e. years of experience, education, gender, race, etc.)	No intervention agent identified OR intervention agent identified but no specific information is provided.	Same intervention agent for all conditions OR intervention agent identified with some demographic information.	Intervention agents described and randomly assigned OR comparability of intervention agents described across three characteristics.
Description and implementation of intervention and comparison conditions Specific description of intervention with detailed procedures for implementation.	**1** Provided information of two or fewer characteristics of intervention.	**2** Provided at least three characteristics of intervention OR referred to another source for information on the intervention.	**3** Provided details on at least four characteristics of the intervention.
Description and measurement of procedural fidelity	No description of procedural fidelity.	Did provide some description of procedural fidelity	Provided description of procedural fidelity AND measured the extent to which the treatment was implemented.
Essential Quality Indicator	*Indicator Not Met*	*Indicator Partially Met*	*Indicator Met*
Description of instruction to comparison groups	No description of instruction to comparison groups	Provided description of instruction to comparison groups on two dimensions.	Provided information on instruction for comparison groups on at least three dimensions.
Outcome Measures Multiple measure or measures of generalized performance	**1** Only employed outcome measures associated with intervention.	**2** Only measured generalized performance	**3** Measured both intervention AND generalized performance.
Obtained outcome data in a timely manner	Gathered outcome data more than a month after the intervention OR not reported.	Gathered outcome data within a month of the intervention.	Gathered outcome data within two weeks of the intervention.
Data Analysis	**1**	**2**	**3**

Analysis linked to research question and appropriate for the unit of analysis	Analysis not linked to research question and inappropriate unit of analysis.	Used appropriate data analysis technique but did not use appropriate unit of analysis.	Used appropriate data analysis technique AND used appropriate unit of analysis.
Effect sizes	Effect size not reported.	Effect size reported but not interpreted	Effect size reported and interpreted/

Based on Jitendra et al. (2011)

Appendix C

Table 2

Quality Indicators for Single Subject Design

Quality Indicator	*Indicator Not Met*	*Indicator Partially Met*	*Indicator Met*
Participant and Setting	**1**	**2**	**3**
Participant Description (i.e. age, grade, gender, disability, diagnosis)	Provided a few details about participant but did not provide operational definition of disability.	Provided operational definition of disability and some details of the participants.	Provided operational definition of disability and three or more demographic characteristics.
Participant Selection	Selection criteria not described or selection criteria did not include social skills performance.	Described selection criteria to include criteria relevant to social skills.	Described precise criteria to include specific assessment scores for selection.
Setting Description	Setting not described.	Described some features of setting.	Described precise features of setting.
Dependent Variable	**1**	**2**	**3**

Description of DV	Described globally OR not described.	Described but not in operational terms.	Described in operational terms.
Measurement Procedure	Measurement procedure is not quantifiable.	Measurement is quantifiable but not to variables of interest.	Measurement is quantifiable to all variables of interest.
Measurement validity and description	Procedure not described or measurement not valid.	Valid procedure with limited description.	Precise description of valid measurement procedure.
Measurement frequency	Measurement not repeated.	Measurement infrequently repeated.	Measurement for at least 3 data points per condition.
Measurement reliability	Reliability data not provided.	Reliability data provided but interobserver agreement <80%.	Reliability data proided and interobserver agreement is >80%.
Independent variable (IV)	**1**	**2**	**3**
Description of IV (Procedure, length of session, number of sessions)	Description is not precise or not provided.	Adequate description but missing some details.	Detailed description with precise details.
Manipulation of IV	IV manipulated but no description of experimental control	IV manipulated with some description of experimental control	IV manipulated with detailed description of experimental control.
Fidelity of treatment reported	No fidelity of treatment reported	Fidelity of treatment reported	Fidelity of treatment reported with data on precision
Baseline	**1**	**2**	**3**
Measurement of DV	Infrequent measure of DV in baseline.	Baseline data measured frequently but not stable prior to	Baseline data measured frequently AND stable prior to intervention.

		intervention.	
Description of baseline condition	Vague description or not provided.	Some details of baseline condition.	Baseline condition is described with precision.
Experimental Control/Internal Validity	**1**	**2**	**3**
Experimental effect	Experimental effect not demonstrated	<3 demonstrations of experimental effect	3 or more demonstrations of experimental effect.
Internal validity	Lack of control for threats to internal validity	Design controls for some threats to internal validity	Design controls for most threats to internal validity
Results	Results do not indicate an impact of the intervention	Results indicate some impact of intervention	Results indicate experimental control as demonstrated by change in trend and level.
External validity	**1**	**2**	**3**
Replication of effects	No replication	Two or less replications	Three or more replications
Social validity	**1**	**2**	**3**
Social importance of DV	Not important or not reported	Somewhat importance	Important
Magnitude of change in DV	Not socially important or not reported	Somewhat socially important	Socially important
Implementation is practical and cost-effective	Social validity data not gathered or reported	Data provides 1 or 2 features	Data provides 3 or more features of social validity
Nature of IV implementation	Not reported or documented only 1 feature	Documented at least 2 features	Documented 3 or more features

Based on Jitendra et al. (2011)

Appendix D

Table 3

Overall Characteristics of the Data Set David there may be a way to insert more information in this table that would help eliminate some text. I started with some columns, intervention description and duration intensity, dependent measures and PNDs would be great to add for each overall study if it would fit.

Study	N(Move here too)	M	F	Average Age /grade(months) Average Grade	Disability	Quality	Experimental Design intervention description; dependent measures PND
Banda & Hart					Autism		Single Subject

(2010)	2	0	2	96/-	-	Spectrum	Low	Multiple Baseline
Banda, Hart &						Autism		Single Subject
Liu-Gitz (2010)	2	2	0	72.00	K	Spectrum	Medium	Multiple Baseline
Fenstermacher,								
Olympia &								Single-Subject
Sheridan (2006)	4	4	0	-	5	ADHD	Low	Multiple Baseline
Gresham, Mai, &								Single Subject ABAB
Cook (2006)	4	2	2	81.00	2	At-Risk	Medium	
Harper, Symon,						Autism		Single Subject
& Frea (2008)	2	2	0	105.50	3	Spectrum	High	Multiple Baseline
Iovannone et al.						Gen Ed.		Group Experimental
(2009)	245	200	45	98.00	2	& Sp. Ed.	Medium	AvB & Pre-Post
Lane et al.								Single Subject
(2003)	7	5	2	107.64	3	At-Risk	High	Multiple Baseline
Laushey &						Autism		
Heflin (2000)	2	2	0	67.00	K	Spectrum	Medium	Single Subject ABAB
Laushey et al.						Autism		Single Subject
(2009)	4	4	0	-	3	Spectrum	High	Multiple Baseline
Licciardello,								
Harchik, &						Autsim		Single Subject
Luiselli (2008)	4	3	1	87.00	-	Spectrum	Low	Multiple Baseline

Total	276	224	52	88.13	2

Appendix E

I would make the intervention approach the first table.. what did they use to teach social skills, then dependent variables. For your article, create real APA format tables and round to 2 decimal places

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Table 4

Effect Size and PND for Dependent Variables

DV		PND	Effect Size
Conversation Skills	Mean	75.3571	
	N	14	
	Std. Deviation	33.70199	
Social Interaction	Mean	76.2500	

	N	5	
	Std. Deviation	28.35930	
General Social Skills	Mean	100.0000	.5175
	N	2	4
	Std. Deviation	.00000	.23486
Antisocial Behavior	Mean	74.8800	
	N	10	
	Std. Deviation	19.29591	
Total	Mean	76.9371	.5175
	N	31	4
	Std. Deviation	27.37220	.23486

Appendix F

Table 5

Effect Size and PND by Quality

Quality	DV		Effect Size	PND
High	Conversation Skills	Mean		86.8750
		N		8
		Std. Deviation		19.38842

	Social Interaction	Mean		100.0000
		N		2
		Std. Deviation		.00000
	Antisocial Behavior	Mean		79.3250
		N		4
		Std. Deviation		12.45238
	Total	Mean		86.5929
		N		14
		Std. Deviation		16.79741
Medium	Conversation Skills	Mean		100.0000
		N		2
		Std. Deviation		.00000
	General Social Skills	Mean	.5175	100.0000
		N	4	2
		Std. Deviation	.23486	.00000
	Antisocial Behavior	Mean		71.9167
		N		6
		Std. Deviation		23.46948
	Total	Mean	.5175	83.1500
		N	4	10
		Std. Deviation	.23486	22.72272
Low	Conversation Skills	Mean		40.0000
		N		4
		Std. Deviation		40.24094
	Social Interaction	Mean		60.4167
		N		3
		Std. Deviation		25.85335
	Total	Mean		48.7500
		N		7
		Std. Deviation		33.93468
Total	Conversation Skills	Mean		75.3571
		N		14
		Std. Deviation		33.70199
	Social Interaction	Mean		76.2500
		N		5
		Std. Deviation		28.35930

General Social Skills	Mean	.5175	100.0000
	N	4	2
	Std. Deviation	.23486	.00000
Antisocial Behavior	Mean		74.8800
	N		10
	Std. Deviation		19.29591
Total	Mean	.5175	76.9371
	N	4	31
	Std. Deviation	.23486	27.37220

Appendix G

Table 6 this nis what I would present first because your paper is a synthesis of social skills interventions and that is what you want to highlight throughout the paper.. First I might present only by intervention type, then bu duration/intensity variables. This would be where in the text, I would provide a description of what a typcail intervention of each typed "looked like" and cite the papers. DI consisted of …used to teach …. Conversation, or what ever, …., and blank in the present data set (e.g., citation). Then follow similar format to discuss each type of intervention. The goal here is to make the paper very concrete for the reader. The interventions and characteristics of those will be of great interest

Effect Size and PND by Intervention Type

Intervention Type	DV		Effect Size	PND
Direct Instruction	Conversation Skills	Mean		60.0000
		N		6
		Std. Deviation		43.94997
	Social Interaction	Mean		36.0000
		N		1
		Std. Deviation		.
	General Social Skills	Mean		100.0000
		N		2
		Std. Deviation		.00000
	Antisocial Behavior	Mean		74.8800
		N		10
		Std. Deviation		19.29591
	Total	Mean		70.7789
		N		19
		Std. Deviation		30.54287
Conceptual Discussion	Conversation Skills	Mean		96.5000
		N		6
		Std. Deviation		8.57321
	Total	Mean		96.5000
		N		6
		Std. Deviation		8.57321
FBA Based	General Social Skills	Mean	.5175	
		N	4	
		Std. Deviation	.23486	
	Total	Mean	.5175	
		N	4	
		Std. Deviation	.23486	
Computerized Modeling	Social Interaction	Mean		72.6250
		N		2
		Std. Deviation		21.03643
	Total	Mean		72.6250
		N		2
		Std. Deviation		21.03643
Peer Modeling	Conversation Skills	Mean		58.0000

		N		2
		Std. Deviation		6.36396
	Social Interaction	Mean		100.0000
		N		2
		Std. Deviation		.00000
	Total	Mean		79.0000
		N		4
		Std. Deviation		24.52550
Total	Conversation Skills	Mean		75.3571
		N		14
		Std. Deviation		33.70199
	Social Interaction	Mean		76.2500
		N		5
		Std. Deviation		28.35930
	General Social Skills	Mean	.5175	100.0000
		N	4	2
		Std. Deviation	.23486	.00000
	Antisocial Behavior	Mean		74.8800
		N		10
		Std. Deviation		19.29591
	Total	Mean	.5175	76.9371
		N	4	31
		Std. Deviation	.23486	27.37220

Appendix H

Table 7

PND by Interobserver Agreement this table and breakdown may be of less interest to many

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Than the intervention and sample characteristics

Report

RIOA	DV		PND
Low	Conversation Skills	Mean	60.0000
		N	6
		Std. Deviation	43.94997
	Social Interaction	Mean	36.0000
		N	1
		Std. Deviation	.
	Antisocial Behavior	Mean	71.9167
		N	6
		Std. Deviation	23.46948
	Total	Mean	63.6538
		N	13
		Std. Deviation	33.74731
High	Conversation Skills	Mean	86.8750
		N	8
		Std. Deviation	19.38842
	Social Interaction	Mean	86.3125
		N	4
		Std. Deviation	19.93257
	General Social Skills	Mean	100.0000
		N	2
		Std. Deviation	.00000
	Antisocial Behavior	Mean	79.3250
		N	4
		Std. Deviation	12.45238
	Total	Mean	86.5306
		N	18
		Std. Deviation	16.90832
Total	Conversation Skills	Mean	75.3571
		N	14
		Std. Deviation	33.70199
	Social Interaction	Mean	76.2500
		N	5

	Std. Deviation	28.35930
General Social Skills	Mean	100.0000
	N	2
	Std. Deviation	.00000
Antisocial Behavior	Mean	74.8800
	N	10
	Std. Deviation	19.29591
Total	Mean	76.9371
	N	31
	Std. Deviation	27.37220

Appendix I

Table 8

PND by Fidelity of Treatment

RFidelity	DV		PND
Low	Antisocial Behavior	Mean	71.9167
		N	6
		Std. Deviation	23.46948
	Total	Mean	71.9167
		N	6
		Std. Deviation	23.46948
Medium	Conversation Skills	Mean	61.7500
		N	4
		Std. Deviation	48.15513
	Social Interaction	Mean	36.0000
		N	1
		Std. Deviation	.
	Antisocial Behavior	Mean	79.3250
		N	4
		Std. Deviation	12.45238
	Total	Mean	66.7000
		N	9
		Std. Deviation	33.72684
High	Conversation Skills	Mean	58.0000
		N	2
		Std. Deviation	6.36396
	Social Interaction	Mean	100.0000
		N	2
		Std. Deviation	.00000
	Total	Mean	79.0000
		N	4
		Std. Deviation	24.52550
Total	Conversation Skills	Mean	60.5000
		N	6
		Std. Deviation	37.45931
	Social Interaction	Mean	78.6667

	N	3
	Std. Deviation	36.95042
Antisocial Behavior	Mean	74.8800
	N	10
	Std. Deviation	19.29591
Total	Mean	70.9368
	N	19
	Std. Deviation	27.97415

Appendix J

Table 9

Effect Size and PND by Mean Grade Level

Average Grade Level	DV		Effect Size	PND
K	Conversation Skills	Mean		100.0000
		N		2
		Std. Deviation		.00000
	General Social Skills	Mean		100.0000
		N		2
		Std. Deviation		.00000
	Total	Mean		100.0000
		N		4
		Std. Deviation		.00000
2nd Grade	General Social Skills	Mean	.5175	
		N	4	
		Std. Deviation	.23486	
	Antisocial Behavior	Mean		71.9167
		N		6
		Std. Deviation		23.46948
	Total	Mean	.5175	71.9167
		N	4	6
		Std. Deviation	.23486	23.46948
3rd Grade	Conversation Skills	Mean		86.8750
		N		8
		Std. Deviation		19.38842
	Social Interaction	Mean		100.0000
		N		2
		Std. Deviation		.00000
	Antisocial Behavior	Mean		79.3250
		N		4
		Std. Deviation		12.45238
	Total	Mean		86.5929
		N		14
		Std. Deviation		16.79741
5th Grade	Social Interaction	Mean		72.6250

		N		2
		Std. Deviation		21.03643
	Total	Mean		72.6250
		N		2
		Std. Deviation		21.03643
Total	Conversation Skills	Mean		89.5000
		N		10
		Std. Deviation		17.97220
	Social Interaction	Mean		86.3125
		N		4
		Std. Deviation		19.93257
	General Social Skills	Mean	.5175	100.0000
		N	4	2
		Std. Deviation	.23486	.00000
	Antisocial Behavior	Mean		74.8800
		N		10
		Std. Deviation		19.29591
	Total	Mean	.5175	84.1942
		N	4	26
		Std. Deviation	.23486	19.09614

Appendix K

Table 10

PND by Age

Rage	DV		Effect Size	PND
Young	Conversation Skills	Mean		78.2500
		N		4
		Std. Deviation		38.97328
	General Social Skills	Mean		100.0000
		N		2
		Std. Deviation		.00000
	Antisocial Behavior	Mean		71.9167
		N		6
		Std. Deviation		23.46948
	Total	Mean		78.7083
		N		12
		Std. Deviation		27.78997
Older	Conversation Skills	Mean		40.7500
		N		4
		Std. Deviation		27.90012
	Social Interaction	Mean		78.6667
		N		3
		Std. Deviation		36.95042
	General Social Skills	Mean	.5175	
		N	4	
		Std. Deviation	.23486	
	Antisocial Behavior	Mean		79.3250
		N		4
		Std. Deviation		12.45238
	Total	Mean	.5175	65.1182
		N	4	11
		Std. Deviation	.23486	30.43740
Total	Conversation Skills	Mean		59.5000
		N		8
		Std. Deviation		37.23382
	Social Interaction	Mean		78.6667
		N		3
		Std. Deviation		36.95042

General Social Skills	Mean	.5175	100.0000
	N	4	2
	Std. Deviation	.23486	.00000
Antisocial Behavior	Mean		74.8800
	N		10
	Std. Deviation		19.29591
Total	Mean	.5175	72.2087
	N	4	23
	Std. Deviation	.23486	29.24771

Appendix H

Table 11

PND by Number of Sessions

Report

RNSessions	DV		PND
Short	Conversation Skills	Mean	60.5000
		N	6
		Std. Deviation	37.45931
	Social Interaction	Mean	76.2500
		N	5
		Std. Deviation	28.35930
	Total	Mean	67.6591
		N	11
		Std. Deviation	33.02958
Long	Conversation Skills	Mean	56.5000
		N	2
		Std. Deviation	51.61880
	Antisocial Behavior	Mean	74.8800
		N	10
		Std. Deviation	19.29591
	Total	Mean	71.8167
		N	12
		Std. Deviation	24.45502
Total	Conversation Skills	Mean	59.5000
		N	8
		Std. Deviation	37.23382
	Social Interaction	Mean	76.2500
		N	5
		Std. Deviation	28.35930
	Antisocial Behavior	Mean	74.8800
		N	10
		Std. Deviation	19.29591
	Total	Mean	69.8283
		N	23
		Std. Deviation	28.27404