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# A treatment components analysis in positive peer reporting for socially withdrawn children

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A TREATMENT COMPONENTS ANALYSIS IN POSITIVE PEER REPORTING FOR  
SOCIALLY WITHDRAWN CHILDREN

A Thesis

Submitted to the Graduate Faculty of the  
Louisiana State University and  
Agricultural and Mechanical College  
in partial fulfillment of the  
requirements for the degree of  
Master of Arts

in

The Department of Psychology

by  
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## ABSTRACT

Socially withdrawn children who do not receive intervention are at risk for struggling in their coursework and having trouble with future psychological adjustment. In spite of these facts, children who act out in the classroom have traditionally received much more attention from teachers and from researchers in the literature. In recent years, there have been many replications of Positive Peer Reporting (PPR) as a quick, effective, and accepted method to help these children overcome their withdrawn status. The extant literature supports the efficacy of PPR. However, there remain several important unanswered questions with regard to PPR. For example, do children differentially benefit from being the *recipient* or *teller* of positive peer reports? Thus, the purpose of this study was to conduct a treatment components analysis to identify the active treatment components in PPR as an intervention for withdrawn children. These results indicate that the greatest gains in positive social interactions occur when the child is the recipient of positive comments from classmates.

## INTRODUCTION

Psychologists, teachers, and parents have a long history of attempting to modify the behavior of children (Wolraich, M.L., 1997; Christie, Hiss, Lozanoff, 1984) As a result, there is a high premium on efficient and effective procedures designed to modify children's behavior. Two classes of behavior problems that are often the focus of these behavior modification strategies are externalizing and internalizing behaviors (Achenbach & Edelbrock, 1979).

### **Externalizing vs. Internalizing Behavior**

Externalizing behaviors refer to under-controlled behaviors, such as disobedience, aggression, and deliberate rule violation (Walker, Ramsey, & Gresham, 2004). Externalizing behaviors have been linked with a host of negative outcomes, including sub-par academic performance and peer rejection (Fergusson, Horwood, & Ridder, 2005). Students considered as internalizers are considered over-controlled and show any combination of anxious, depressed, withdrawn, and somatic/physical symptoms (Helstela & Sourander, 2005). Internalizing problems are also correlated with poor academic performance and social competence, which in turn are associated with peer acceptance and degree of success in social interactions (Walker et. al., 2004). These "internal stressors" may also have an adverse effect on self-esteem, physical health, and future psychological adjustment (Helstela & Sourander, 2005).

Another factor that distinguishes externalizing and internalizing behaviors is the amount of attention given to each in a classroom setting. Literature suggests that teachers take more time responding to externalizing than internalizing behaviors (Thomas, Presland, Grant, & Glynn, 1978). Research indicates that teachers often overlook children with internalizing behavior patterns because they exhibit behaviors consistent with characteristics of the *ideal* student: docile, quiet, and still (Walker, Ramsey, & Gresham, 2004; Winett & Winkler, 1972). Teachers

are quick to pick up on the external cues displayed by children with externalizing behavior problems because of the overt nature of their behavior.

A survey of the research indicates that school-based researchers tend to pay more attention to externalizing problems than internalizing problems (Helstela & Sourander, 2005). The majority of research on internalizing behavior has studied how to assess it, rather than how to prevent and intervene. The paucity of research on interventions for children with internalizing behavior problems is troubling in the light of the research indicates, if untreated, internalizing problems are likely to extend into adulthood and bring about other harmful outcomes to the individual (King & Ollendick, 1994). An example of this research is that conducted by Abraham and Fava (1999), which found that anxiety disorders precipitate the onset of substance abuse.

The lack of focused research on children with internalizing behavior problems is troubling. Therefore, the focus of this study will be on children with internalizing behavior patterns who are screened and identified early on in their school careers and to prevent them from experiencing deleterious outcomes later in life. Specifically, this study will focus on the subset of children with internalizing behavior problems who are socially withdrawn.

### **Social Withdrawal**

Rubin and Asendorpf (1993) define social withdrawal as “the consistent display (across situations and over time) of all forms of solitary behavior when encountering familiar and/or unfamiliar peers.” Rubin says social withdrawal is “construed as isolating oneself *from* the peer group.” Their solitary behavior manifests itself in the following ways: inhibition, fearful shyness, self conscious shyness, passive withdrawal, and active isolation. Socially withdrawn children fail to show socially acceptable behavior by the lack of time spent in positive social interactions. They not only avoid social situations at schools (at recess, lunch, and group work),



but also their peers avoid social situations with them (Skinner, Neddenriep, Robinson, Ervin, & Jones, 2002).

Schneider (1992) argues that having the ability to effectively interact with peers and adults is one of the most significant skills to attain. This skill is a predictor of psychological and social adjustment throughout one's life (Gresham, MacMillan, & Bocian, 1996). Teachers and students alike tend to ignore pro-social behavior and pay more attention to reporting negative behavior (Thomas, Presland, Grant, & Glynn, 1978; White, 1975). Given that socially withdrawn students do not capitalize on what chances they have to socialize appropriately and they are likely to be ignored for the most part when they actually do, without intervention, chances for improvement in developing adequate social interaction skills are slim.

Interventions for socially withdrawn children should provide students with opportunities to capitalize on socially appropriate situations as they occur in the natural setting. They should also provide positive social attention to the child in a way that this attention serves as positive reinforcement rather than an aversive event that the child will try to avoid. The aim of these interventions is to increase the child's social skills and overall social status. Social skills are defined as "socially acceptable learned behaviors that enable an individual to interact effectively with others and to avoid or escape unacceptable behaviors that result in negative social interactions with others" (Gresham & Elliott, 1984). Socially withdrawn children either do not possess the skills that enable them to interact effectively, or they do not use these skills in their repertoire to interact effectively. Social skills are important to attain and utilize in order to interact properly and successfully within different social environments. Social skills have been shown to be one of the four academic enablers, which are nonacademic behaviors that have an effect on a child's academic competence (DiPerna & Elliott, 2002). Therefore it is important that socially withdrawn children are intervened with to ameliorate their problem.

## **Social Skills Training**

The most commonly used intervention for socially withdrawn children is social skills training (SST). SST has four objectives: promote skill acquisition, enhance skill performance, remove or reduce competing problem behaviors, and facilitate generalization and maintenance of pro-social behaviors (Gresham, 1995). There have been many different ways that teachers have tried to teach social skills to their classes, including whole-class, small group, and individualized formats. SST is an effective intervention for children with internalizing, withdrawn symptoms, but its drawbacks are easily spotted if not done properly (Gresham et. al., 2004; Cook et al. 2008). Gresham stated that one limitation of most SST intervention programs is that they tend to overly focus on skill acquisition deficits, or can't do problems. Teaching children behaviors and skills that they already know how to perform is incorrectly matched to the type of social skills deficit. Rather, for students who already know how to demonstrate the skills, and choose not to ("won't do" problems), the focus needs to be on applying these skills to the many different social settings and situations they encounter on a daily basis. Generalization of skills into the natural environment is a main drawback of SST (Skinner et. al., 2002).

## **Positive Peer Reporting**

To combat some of the drawbacks of SST, positive peer reporting (PPR) was developed. It was first introduced by Grieger, Kaufmann, and Grieger (1976) as a class-wide method to improve social behavior and interactions between kindergarten students. PPR is a "behavior analytic intervention that effectively alters the peer ecology to influence behavior and promote social acceptance" (Bowers, Jensen, Cook, McEachern, and Snyder, 2009). Children in class are given the chance to provide positive comments about the behavior of another student in class. The children providing the comments, *the tellers*, are provided reinforcement using a token economy approach for describing positive behaviors that the target child, *the recipient*, engaged

in during the day. Because the reinforcement contingency is salient, the target child experiences a change in his/her peer ecology from one that involves either negative or neutral social interactions to one that involves more opportunity for positive social interaction.

The research base on PPR is growing. The first study by Grieger et al. (1976) actually provided reinforcement to the recipients for participating in positive interactions in a classroom setting. Ervin, Miller, and Friman (1996) demonstrated PPR to be an effective intervention that increased social interactions and peer acceptance in a peer rejected girl in a school within a residential care center. They used the current method of reinforcing the tellers, while allowing the reinforcement for the recipients to be the social praise from the individual peers. Bowers, McGinnis, Ervin, and Friman (1999) used PPR with a 15 year old rejected boy in a residential care center and found that PPR was an effective intervention for increasing positive interactions, decreasing negative interactions, and increasing peer ratings. They also found that the effects generalized to his peers in the care center that were not necessarily targeted by the intervention. This study was replicated by Bowers, Woods, Carolynn, and Friman (2000) using four adolescents in a group home setting.

PPR has also been demonstrated to be effective in school-based settings. Ervin, Johnston, and Friman (1998) used PPR as a “nonintrusive alternative to social skills packages” for a socially rejected six year old girl. PPR increased positive interactions and reduced negative interactions, and PPR was rated as “effective, easy, and had future utility” (Ervin et. al, 1998). Jones, Young, and Friman (2000) investigated the effects of PPR on the class participation of three peer rejected children in a school setting. They found that specific pro-social behaviors can be identified for improvement by using PPR (Jones et. al., 2000). Johnson-Gros and Shriver (2006) found similar results to the aforementioned studies. They also assessed treatment integrity and found that teachers can be trained to implement this intervention with high levels of

integrity. Moroz and Jones (2002) used PPR with 3 children in elementary school referred for low rates of peer interaction (socially withdrawn). Their dependent measure, social involvement, increased drastically from baseline after the intervention was implemented. The intervention was approved by the teachers following removal of treatment and treatment integrity was 100%. In addition to increasing positive social interaction, Morrison and Jones (2006) found that there were decreased numbers of socially isolated children according to sociometric nomination.

There are some items that are left unanswered by the PPR literature base. One item that merits further discussion is generalization. To date, none of the studies aforementioned have assessed whether generalization to other settings naturally occurs or if there needs to be additional training to help facilitate generalization. Another area of concern for PPR is whether the effects of the treatment maintain once it is withdrawn. Research is unclear on whether there are maintenance effects when treatment is suddenly withdrawn and whether additional booster sessions are needed following withdrawal (Bowers et. al., 2009). Another area of study can be whether the extent that the intervention is implemented with integrity can enhance effects. Treatment integrity is affected by both the teachers implementing the protocol correctly and the students actually participating correctly. It could be hypothesized that teachers who implement the intervention with integrity and even go above and beyond to point out and reinforce instances of positive social interactions will see better results. A final question, and the focus of this study, is what is the active treatment component driving the effects of PPR? To date, there is minimal research that has examined the differential benefit of being in the recipient or teller condition, or if being in both conditions contributes to a stronger effect. A preliminary study by Bowers et al. (2009) took an initial peak at the differential benefits of teller and recipient conditions and found that it depended on the child's condition/behavior problem whether being the teller or the

recipient has a more salient effect. However, the authors encouraged readers to interpret the data tentatively, as a treatment component analysis was not the primary focus of the study.

### **Treatment Components Analysis**

Weisz and Kazdin (2003) state that once it is known that a specific intervention works, research should begin to focus on the causal mechanisms in order to better understand how to deliver these components and eliminate components with little or no effect. Because PPR is becoming such a popular and frequent intervention, the importance of knowing which condition of the intervention has the most effect on a particular group cannot be understated. Knowing which condition serves the different populations better can only enhance the quality of the intervention as a whole. Understanding the necessary and sufficient conditions for benefit allows the researcher to implement the most time and cost efficient yet effective treatment in the given condition. PPR has already been demonstrated to be effective and acceptable, but knowing for certain that if it works in this case would add to the research base. Knowing the mechanisms of change is of primary interest in this study. The components analysis will provide a better understanding of what the positive effects of PPR for this population.

### **Rationale**

PPR may be used as a quick and nonintrusive secondary intervention for socially withdrawn children. A reason for conducting a components analysis is to evaluate whether this intervention can override a strong history of being socially withdrawn. Gains in positive social interactions while in the teller condition could mean that the contingency of gaining a token for the class overrides the aversiveness of either initiating or becoming a part of some social interaction. It also could mean that earning a token for the class results in peer attention as a positive reinforcer. It could be hypothesized that typically peer attention does not function as positive reinforcement in socially withdrawn children. Gains in positive social interactions while

in the recipient condition could either be explained by classmates not allowing the child to escape social situations, gradually reducing the aversiveness of those situations. It may also be explained by that the peer attention in the PPR session functions as a positive reinforcer, which would cause the child to engage in more interactions to access more positive comments.

## METHOD

### Participants

Three elementary students in first through fourth grade were selected using a multiple gating procedure. Each participant was in a separate class at a school in East Baton Rouge Parish. For inclusion in this study, each participant had to be in a separate class, had average to above average intellectual functioning, and not be receiving services to address their withdrawn status.

The multiple-gating procedures consisted of three gates of progressively more intensive assessment procedures. The first gate involved having teachers nominate students in their class who display behaviors consistent with a definition of socially withdrawn that was provided to them. The second gate consisted of gathering sociometric ratings for each of the nominated students. Each student in the target student's class rated how much they like to spend free time with their classmates and name the top three students they like most and like least to spend free time with. In order to pass through the second gate, the nominated students must have had a peer rating of less than two (could only be ranked least likely to spend free time once) and not be listed on any classmate's list as most likely to spend free time with (Coie, Dodge, & Coppotelli, 1982). Students who pass through the second gate then were observed on the playground (the target setting for observations in the intervention) to ensure that they actually fit withdrawn status. Positive and negative social interactions with peers and alone time was recorded for each of the students using a 15 second momentary time sampling recording procedure. Given that withdrawn status suggests that the individual engages in minimal social interactions with peers, to be identified for participation in this study, the direct observation data must indicate that the student spends at least 80% of the time alone. Students who engaged in a high percentage of social interactions were not deemed eligible for participation in this study.

Joey began the intervention in spring 2009 as a first grade student at a private school in East Baton Rouge Parish. The intervention was not completed at the end of the school year, so it was continued in fall 2009 when the school year began. Joey was not rated by his classmates as either least likely or most likely to spend free time with in sociometrics. Joey's SSIS Rating Scales pre scores, reported as standard scores, were 60 for a general measure of social skills and 67 for a rating on his performance of the top ten social skills as rated by teachers.

Jill was a fourth grade student at a public school in East Baton Rouge Parish. Jill participated in the intervention in fall 2009. Jill was not rated by her classmates as either least likely or most likely to spend free time with in sociometrics. Jill's SSIS Rating Scales pre scores were 63 for social skills and 61 for the top ten social skills.

Jeremy was a second grade student at a public school in East Baton Rouge Parish. Jeremy participated in the intervention in fall 2009. Jeremy was not rated by his classmates as most likely to spend free time with, but was rated by one peer as least likely to spend free time with in sociometrics. Jeremy's SSIS Rating Scales pre scores were 74 for social skills and 75 for the top ten.

## **Materials**

Teachers posted the rules of the intervention in the classroom, which was called the "Good Beehavior Game" in this study. There were also a container (the bee hive) and tokens (pollen pieces) that were put in the hive every time a teller (the worker bee) provided a positive peer report about the recipient (the king/queen bee); and the teacher considered the report specific and genuine. When the bee hive reached thirty pollen pieces (approximately a week), the class was given a small reward provided by the researcher that was determined appropriate by the teacher. When the bee hive reached 130 tokens (approximately the length of the intervention), the class received a pizza party provided by the author of this proposal.



## Measures

**Sociometric Rating Scale.** The sociometric form used in this study had two pages. Page one contained an area for each child in the target child's class to rate the target child on a five point likert scale: "how much do you like spending free time with (each child's name) from "never" to "all the time". This peer rating was used to assess the class's general acceptance of the target students before and following the intervention. Page two had an area for each child in the class to list the three children he/she is most likely to spend free time with and is least likely to spend free time with. Criteria for being socially withdrawn was having the target child being rated less than twice as the child each student in the class least likely would want to spend free time with, and the child could not be ranked as the student one would most likely want to spend their free time with (Coie et. al, 1982).

**Social Skills Improvement System Rating Scales (SSIS).** Prior to implementation and at the end of the intervention the teacher form of the SSIS was collected to assess change in social skills as a result of the intervention. The SSIS rating scales are a "multi-rater assessment of the perceived frequency and importance of a student's social behaviors." (Gresham & Elliott, 2008). It is a standardized questionnaire using a Likert scale to assess frequency (never, sometimes, often, very often) and importance (not important, important, critical) of social skills, problem behaviors, and academic competence.

**Dependent Variable.** The primary dependent variable in this study was the percent intervals of positive social interactions, negative social interactions, and neutral interactions on the playground. The behavior coding procedure was a 15 second momentary time sampling procedure. At the end of each 15 second interval, observers recorded whether the child was engaged in a positive social interaction, negative social interaction, or alone at that moment. The three behavioral codes were mutually exclusive; therefore, only one of the codes could be

recorded for each interval. The percent of intervals for each behavior code was determined by dividing the total number of intervals per code by the total number of intervals for the observation. For example, if 15 of the intervals were recorded as positive social interaction and there were a total of 45 intervals, then percent intervals of positive social interactions would be  $15/45 = 0.33$  or 33%.

**IRP-15** – Form IRP-15 was used to assess post intervention ratings of teacher acceptance for this intervention. This is one of the most widely used forms to assess intervention ratings of acceptance and effectiveness (Witt & Elliot, 1985). Each teacher rated this intervention as acceptable and stated they would like to continue its implementation in their classroom.

**CIRP** – A modified version of the Children’s Intervention Rating Profile was filled out by each participant following the intervention. Each child said they liked being a part of the project, and they did not experience any “bad feelings” as a result of being the recipient. One child said he would be the King Bee again if the class could earn another pizza party.

**Teacher Fidelity Checklist** – A fidelity checklist was filled out by the teacher each day. This was the same form used by the experimenter or other observers who observed the actual intervention at the end of a school day. Treatment integrity was reported by both the teachers and experimenters at 100 percent.

## **Procedure**

Once a child became eligible to be a participant, a baseline measure of positive social interactions was observed. Once behavior became stable, the intervention began. In homeroom on the first day of the intervention, the teacher announced that the class will begin to play the “Good ‘Beehavior’ Game” for a project at LSU. The teacher said that by playing this game the class will have chances to earn prizes and ultimately a pizza party if they play correctly. The teacher then described the rules of the game. The teacher described that each week the class will

have a King/Queen Bee, who will be the recipient in the reporting of positive comments from the class, or worker bees. The teacher instructed the class to be observant of the king/queen bee's positive behaviors during the day and that the worker bees will report instances of these behaviors at the end of the day. Examples of positive instances to comment on are sharing, helping a friend, or any behavior that the teacher deems necessary to mention to the class that is specific to the recipient. If the teacher determines that the example of positive behavior is appropriate, then he/she will place a pollen piece in the bee hive. The only reinforcement provided to the recipient would be the actual positive comments being said about him/her and a positive comment from the teacher for performing in that behavior.

During recess each day the intervention was in place, if possible, the experimenter and other trained data collectors recorded intervals of positive, negative, and neutral social interactions. Also, the researcher collected sociometric information following the experiment. If one week was not enough to establish an effect of the specific condition relative to baseline, the child remained in that specific condition for another week. Also, after two weeks of being the teller for Joey and Jill, they were switched back to the recipient phase. This was sold to the class as "the advisor of this project at the university says this is the best way to work on this project, so let's keep working like this for now, and we will eventually get to have a pizza party."

### **Independent Variable / Experimental Design**

A nonconcurrent multiple baseline design was employed to address the aforementioned research questions. There were two conditions, recipient and teller, following baseline. Two children were randomly assigned to begin the intervention in the recipient condition, while the other child began in the teller condition. Each child switched conditions when either stability in responding was achieved or the child was in a particular phase for two weeks. Two weeks was

determined (informally) to be the length that the class satiated to that phase and stopped coming up with unique comments for the recipient. Recess data was collected each day if possible.

## RESULTS

### IOA and Data Analytic Strategy

Interobserver agreement was collected on 51% of all recess observations (47% for Joey, 45% for Jill, and 68% for Jeremy). Mean agreement for Joey's observations was 96% (range, 86% to 100%), 94% for Jill (range, 82% to 100%), and 94% for Jeremy (range, 86% to 100%). Visual analysis and percent change indices were employed as the primary data analytic strategies. For each child, the percent of their time spent in positive social interactions on the playground is reported. Nearly zero negative interactions were observed, so it may be assumed that if the interaction was not positive, then the child was alone on the playground during that interval. Percent change indices and effect sizes were also calculated.

### Children Who Were Recipient First

The data for Joey and Jill across baseline, teller and recipient phases are depicted in Figures 1 and 2, respectively. Discussion of the results begins first with the data from Joey. In baseline, Joey averaged 20 percent of his time at recess in positive social interactions on the playground. In his first recipient phase, Joey's interactions increased relative to baseline, averaging around 75 percent of intervals in positive social interactions, a 55 percent increase. When Joey was in the teller phase, his percent of positive social interactions decreased to below baseline levels, averaging 18 percent. Switching Joey back to the recipient condition saw his positive interactions increase again, averaging 41 percent of his time at recess spent in positive social interactions. Percent change indices and effect size calculations are displayed in table 1. Joey's SSIS Rating Scales post scores were 72 for social skills and 86 for the top ten. SSIS data is displayed in table 2. Joey's sociometric ratings did not change significantly, and he was rated neither least liked nor most liked by his classmates. Jill averaged 30 percent of her time in positive social interactions during baseline. When PPR was introduced with her participating as

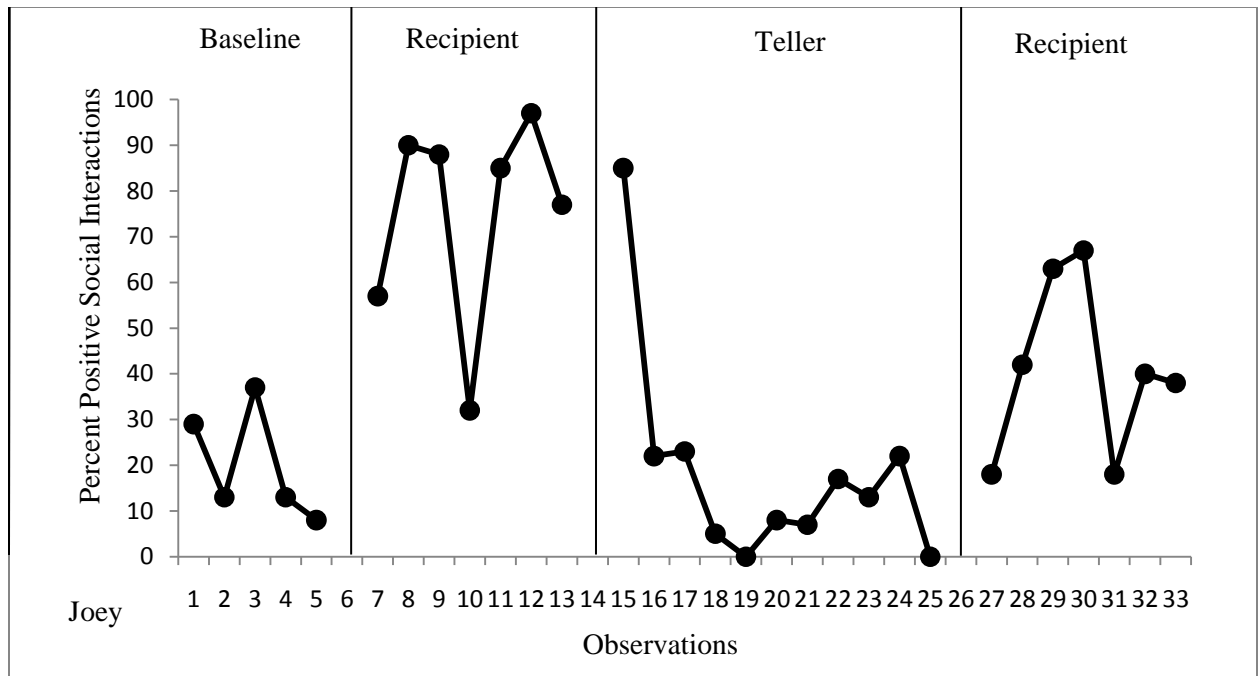


Figure 1. Joey's percent of positive social interactions on the playground. The x-axis is the observation and the y-axis is the percent of positive social interactions on the playground

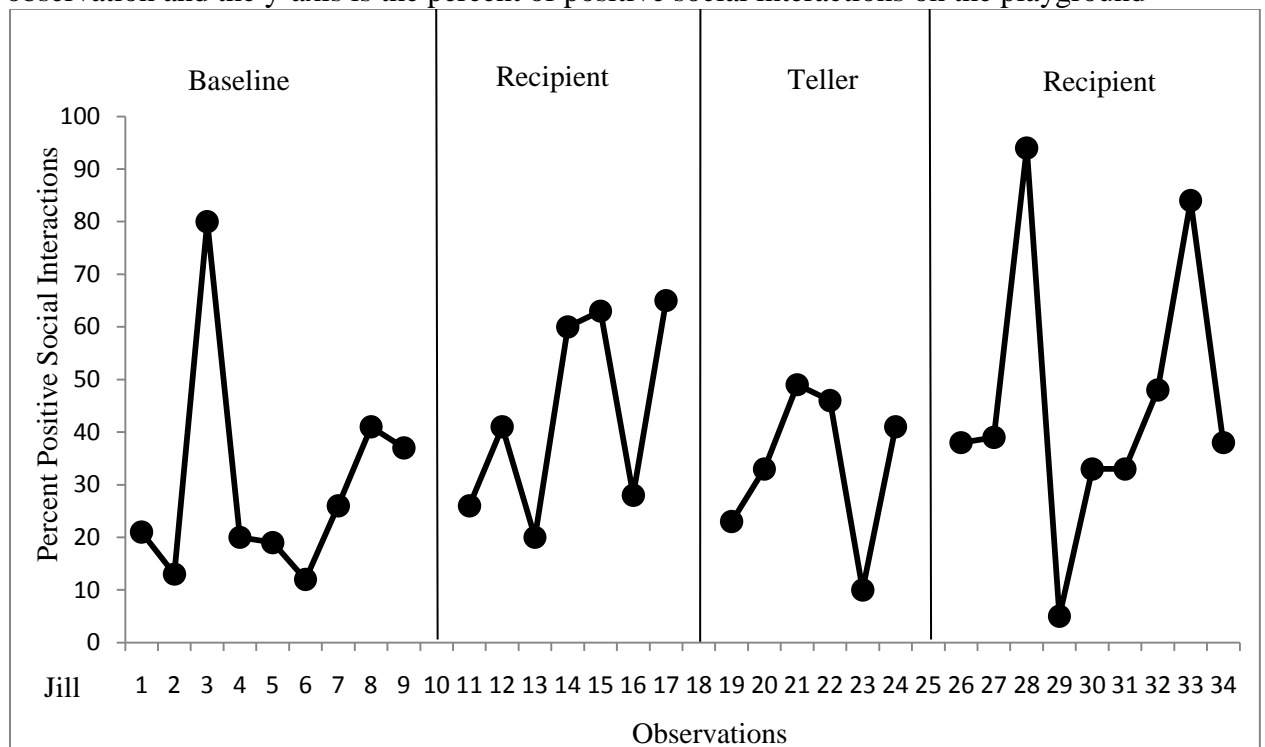


Figure 2. Jill's percent of positive social interactions on the playground. The x-axis is the observation and the y-axis is the percent of positive social interactions on the playground.

Table 1. Percent change indices and effect size calculations. PND = Percent of non-overlapping data points. SMD ES = Standardized mean difference effect size calculations.

	% Change Teller	% Change Recipient	PND Teller	PND Recipient	SMD ES Teller	SMD ES Recipient
All	1.35%	25.81%	17.70%	64%		
Joey	-2%	55%, 20%	10%	86%, 71%	-0.13	4.5, 1.69
Jill	0.80%	13%, 15.78%	0%	42%, 33%	0.18	0.61, 0.74
Jeremy	5.25%	25.25%	43%	88%	3.5	17.25

Table 2. SSIS rating scales scores pre and post implementation of PPR. Scores are reported as standard scores

	SS Pre	SS Post	Top 10 Pre	Top 10 Post
All	65.7	76.7	69.3	85.3
Joey	60	72	72	86
Jill	63	72	61	81
Jeremy	74	86	75	89

the recipient, her positive social interactions increased to an average of 43 percent. When switched to teller, she averaged 34 percent of her time in positive social interactions, and she averaged when switched back to recipient she averaged 46 percent. These results indicate that Jill benefited the most from the recipient condition. Jill's SSIS Rating Scales post scores were 72 for social skills and 81 for the top ten. Jill's sociometric ratings did not change significantly as well.

### Child Who Was Teller First

Jeremy's data are displayed in Figure 3. In baseline, Jeremy averaged 0.75 percent of his time at recess in positive social interactions. Jeremy began the intervention in the teller phase, where he averaged 6 percent of his time in positive social interactions. When he switched to recipient, he averaged 26 percent. These results indicate that Jeremy also benefited the most from being the recipient of a PPR intervention. Jeremy's SSIS rating scales post scores were 86 for social skills and 89 for the top ten. Therefore, each child's rating scales scores rose nearly a

standard deviation following implementation of PPR. Jeremy's sociometric ratings changed in that he was not rated as least liked by any of his classmates, but he was still not rated as most liked.

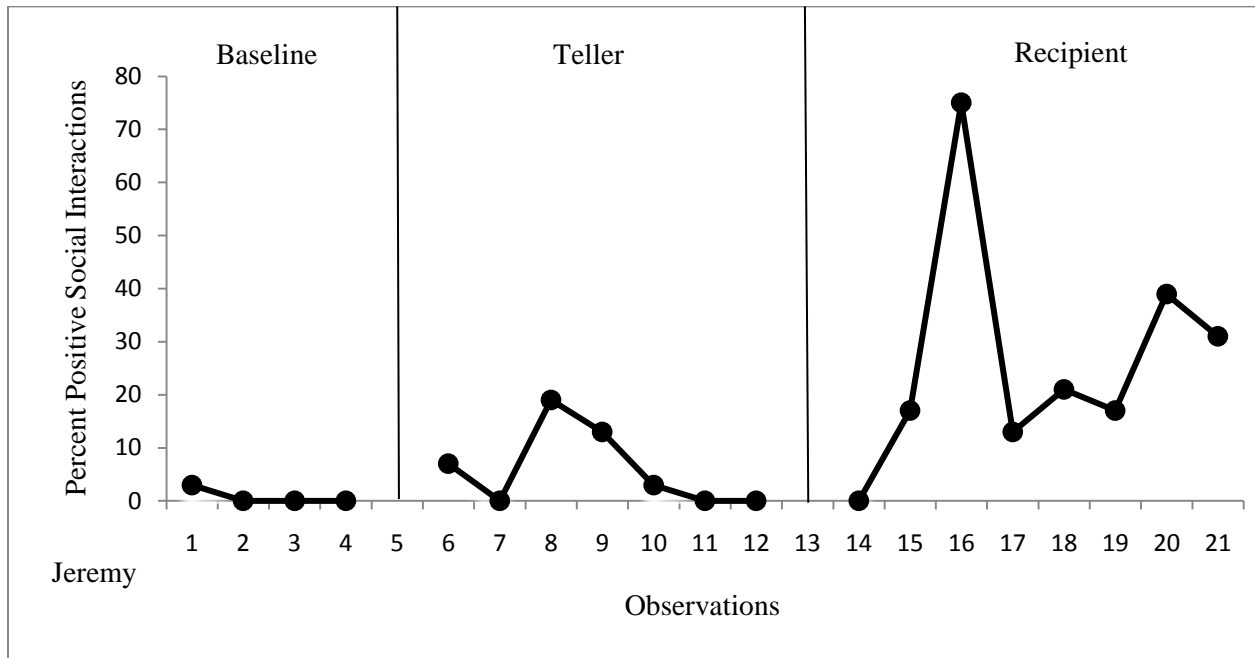


Figure 3. Jeremy's percent of positive social interactions on the playground. The x-axis is the observation and the y-axis is the percent of positive social interactions on the playground.



## DISCUSSION

The purpose of this study was to conduct a treatment component analysis of the PPR intervention. Specifically, teller and recipient conditions were compared to determine whether children differentially respond to these PPR treatment components. Several interesting findings worth discussing emerged from this research.

Bowers et al. (2009) suggested that children who are withdrawn may benefit more from being the recipient of positive peer reports than being the teller, since they engage in minimal interactions with others. Consistent with this hypothesis, the results of this study demonstrated that participants demonstrated differential responses during treatment conditions favoring the recipient condition. Each of the participant's positive social interactions on the playground increased relative to baseline with the intervention in place. In particular, these gains were best seen in the recipient phase. In fact, when the child was in the teller phase, their positive interactions were at levels similar to baseline. Therefore, in a positive peer reporting intervention, the socially withdrawn child must be the recipient to see gains in interactions on the playground. One may infer that if interactions increased on the playground as a result of this intervention, which takes place in a different location and at a different time, that interactions would increase in other settings and times as well.

It is interesting to consider why the participants experienced improvements in the recipient condition and not the teller condition. When in the recipient condition, play was initiated at recess by classmates seeking to earn a token towards a prize, and the aversiveness of these situations was overridden by helping the class achieve the goal of earning a large terminal reinforcer, the pizza party. Joey proved to be most responsive to peer initiated contact at the onset of the recipient phase, as his interactions increased the most relative to baseline and the teller phase. Jill and Jeremy were both responsive to peer initiated contact, but they still would

keep to themselves. As the recipient phase carried on, the aversiveness of these interactions for the withdrawn children seemed to decrease, and both the withdrawn children and the peers adapted their play strategy to better suit each other. For example, Joey's classmates loved to play basketball, but Joey did not. As the recipient phase continued on, Joey's classmates discovered that Joey liked to play tetherball, so they spent recess playing that (in order to find nice things to say about Joey).

In the teller condition, the withdrawn children were called on every day, but they were not required to come up with a comment. Each child had something to say though after the first couple of days. Their classmates did not urge them to come up with one because most of them had comments to say, which helped them get towards their end goal of a pizza party. So the contingency in place of earning a token did not override the aversiveness of social situations, and their peers did not prod them because they were still earning tokens towards the pizza party. The teller condition was not altered to one that forced comments because that is atypical of previous research in PPR, but evaluating interactions (both on and off the playground) on days they are forced to have a comment versus days they are not would be interesting to research. This may enhance the effects of being a teller, which may decrease the apprehensiveness these children have in approaching social situations.

These results may help guide intervention strategies for socially withdrawn students. This intervention takes less than ten minutes a day to implement, and it is much less labor intensive than formally teaching these skills. It would be interesting to evaluate long term outcomes for socially withdrawn children if this intervention were used throughout the school year.

## **Limitations and Future Research**

One limitation of this study was the way the intervention was set up. Having one recipient made it difficult to use stability in responding as a criterion to change phases. Most of the children in the class wanted a chance to be the King/Queen Bee, so their willingness to come up with unique and genuine comments faded in the second week. In an attempt to not corrupt the results, the experimenter established two weeks as the longest amount of time the child could be the recipient at one time. Potentially evaluating in another fashion such as allowing the child to be the recipient once or twice a week would aid in not losing the willingness of the class to focus their attention on finding positive things. It would also allow for the intervention to be used over a longer duration, like an entire school year. Another limitation lies in evaluating the results. Potentially, SSIS-RS gains may be a function of maturation or simply the teachers paying more attention. For evaluating positive interactions, each child had a different starting point and showed differential effects as a result of the intervention. While the intervention was effective, it is hard to determine how effective it was for each kid with the dependent measure used. A randomized control trial using positive peer reporting for socially withdrawn children would give a better idea of how truly effective this intervention is for this population.

## **Summary**

For socially withdrawn children, being the recipient in a positive peer reporting intervention appears to be the active ingredient in the PPR intervention. However adjusting the contingencies in place for the teller condition may yield different results. Future studies in PPR should further evaluate the treatment components for both withdrawn children and externalizing children and evaluate the short and long-term effects of receiving a PPR intervention. This research will help uncover whether the effects of being the recipient are as short-lived as the day in which the target child is the recipient or whether they maintain for a longer period of time.

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## VITA

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