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A comparison of public and private positive peer reporting in general education classrooms

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A COMPARISON OF PUBLIC AND PRIVATE POSITIVE PEER REPORTING IN GENERAL EDUCATION CLASSROOMS

A Thesis

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ABSTRACT

Positive peer reporting (PPR) and Tootling have shown to be effective classwide interventions in decreasing maladaptive behavior and increasing positive interactions. In the current study, PPR was implemented as a classwide intervention by using an interdependent group contingency to determine if two variations of student praise reports affect classroom disruptive behavior. PPR uses public praise reports to decrease maladaptive behavior and increase prosocial interactions, while Tootling uses private praise reports on index cards to increase reports of prosocial interactions. This study compared students' public praise reports to private praise reports of fellow students and evaluated how different praise types affect overall classroom disruptive behavior. The current study used an alternating treatments design with an initial baseline condition. The three alternating conditions included a Control, Public PPR, and Private PPR condition. The Public PPR condition had students publicly praise target students, while the Private PPR condition had students privately write praise reports on index cards. The teacher's original classroom management strategy was used during the baseline and Control condition. Classwide observations of disruptive behavior were collected daily by using a partial interval recording system. Results suggest that neither public nor private reports affected classwide disruptive behavior. Implications for future research and limitations of the current study will be discussed.

INTRODUCTION

In some classroom environments, disruptive behavior is a chronic phenomenon that requires behavioral interventions (Woodward, Ollendick, & Butcher, 1981). Students exhibiting these types of maladaptive behavior may encounter future academic problems, social skills deficits, and delinquency (Fergusson & Horwood, 1995; Lane, 1999, as cited in Kazdin, 1987; Trzesniewski, Moffit, Caspi, Taylor & Maughan, 2006). Disruptive behavior can also affect the relationship between the teacher and student. Teachers tend to avoid or ignore a disruptive student during instruction time; therefore, the student's chances for class involvement are reduced (Gottfredson, Gottfredson, & Hybl, 1993). Disruptive students also seek attention from classmates and teachers, which negatively affects the classroom environment by taking valuable instruction time away from other students (Finn, Pannozzo, & Voelkl, 1995).

School systems and classrooms have commonly employed punishment to decrease disruptive behavior (Cashwell, Skinner, & Smith, 2001; Sugai & Horner, 2002). This involves designing rules and regulations for appropriate classroom behavior and establishing punishment contingencies for inappropriate behavior. Types of punishment contingencies include verbal reprimands, demerits, response cost interventions (removal of reinforcers), and time-out interventions (Brophy, 1983; Maag, 2001). Although these rules, regulations, and punishment procedures may prevent disruptive behavior in some children, they may also create some negative side effects for others. For example, repetitive use of punishment may be ineffective in decreasing problem behavior and support the development of antisocial behavior in some students (Mayer, 2002; Skinner, Neddenriep, Robinson, Ervin, & Jones, 2002). This can be especially troublesome when punishment contingencies are solely used to decrease problem behavior and other procedures are not in place to teach appropriate behavior (Maag, 2002).

Another side effect of punishment contingencies is when students learn to simply avoid teachers while still engaging in problem behavior (Skinner, Cashwell, & Skinner, 2000). This learned avoidance strategy could increase disruptive behavior by allowing students to continuously engage in maladaptive behavior (Cashwell et al., 2001). Finally, continuous use of punishment may result in the classroom becoming an aversive experience for students (Mayer, 2001). This may result from extensive focus on the regulation and punishment of disruptive behavior, and less acknowledgement or reinforcement of students' prosocial behavior (Skinner et al., 2000).

Interventions for disruptive behavior have been developed that emphasize positive reinforcement to enhance appropriate behavior in the classrooms (Barrish, Saunders & Wolf, 1969). Positive reinforcement in the classroom increases the likelihood of appropriate behavior. It is also easily implemented by the teacher because of its natural occurrence in the classrooms (Maag, 2001). Interventions have used independent group contingencies (i.e., reinforcement based on individual performance) or interdependent group contingencies (i.e., reinforcement based on group performance) (Litow & Pumroy, 1977; Michaels, 1977). Both contingencies have been shown to decrease maladaptive behavior and increase prosocial behavior in students by using contingent reinforcers such as rewards or praise (Barrish et al., 1969; Ervin, Johnston, & Friman, 1998; Maag, 2001). Studies have defined prosocial behavior as "sharing, helping a friend, volunteering, showing anger control, honesty, trying hard in school, giving others praise, encouragement or compliments, or any other behavior that is a specific target area for the target child" (Skinner et al., 2002). Interventions to increase prosocial behavior on a classwide level include token economy programs (O'Leary & Becker, 1967; O'Leary, Becker, Evans, & Saudargas, 1969), the Good Behavior Game (Barrish et al., 1969), and peer-based interventions, such as Positive Peer Reporting (PPR) (Grieger, Kauffman, & Grieger, 1976; Hoff & Ronk,

2006; Morrison & Jones, 2006; Skinner et al., 2002) and Tootling (Cashwell et al., 2001; Skinner et al., 2000).

Positive Peer Reporting

The more recently developed PPR intervention has been used to reinforce prosocial interactions and decrease antisocial behavior at both the individual and the classroom level by incorporating peers as behavioral change agents (Cashwell et al., 2001; McGee, Kauffman, & Nussen, 1977; Moroz & Jones, 2002). PPR at the individual level has primarily been used as an intervention for students who are socially withdrawn, rejected and/or neglected due to its positive effects on their sociometric status in the classroom. This intervention designates a target student (the socially withdrawn/rejected/neglected student) and allows peers to publicly report any prosocial behavior during an allotted time period. Both class rewards and individual reinforcers for the reporting student and target student have shown to be effective reinforcement contingencies for the target student's prosocial behavior. Also, PPR studies have shown that problem behavior decreased and prosocial behavior increased for these students in school systems and residential care facilities (Bowers, McGinnis, Friman, & Ervin, 1999; Bowers, Woods, Carlyon & Friman, 2000; Ervin et al., 1998; Ervin, Miller, & Friman, 1996; Hoff & Ronk, 2006; Jones, Young, & Friman, 2000; Moroz & Jones, 2002). Furthermore, PPR at the individual level was implemented for a preschool child who engaged in noncompliance and aggression. During the first treatment phase, *compliance training* was implemented. In this phase, negative social behavior decreased but was unstable. During the last treatment phase, *compliance training* continued and PPR was introduced. This resulted in lower stable levels of negative social behavior throughout the phase. Additionally, during this phase, the child

exhibited high steady rates of positive social behavior throughout the day (Johnson-Gros & Shriver, 2006).

PPR was implemented by Grieger et al. (1976) as a classwide intervention for two kindergarten classes by recording aggressive and cooperative behavior to determine if levels of behavior changed during two interventions. The two interventions, *PPR with a reward* and *PPR without a reward*, were both effective methods in decreasing aggression; conversely, cooperative play increased during peer reporting of friendly behavior. The reversal phase instructed students to report any unfriendly behavior during play time, but no actions were taken against those students who were named. The reversal phase showed that reporting unfriendly behavior (known as tattling) actually increased aggressive behavior and decreased cooperative play similar to baseline level. In a similar study, PPR was incorporated in a special education classroom using a reversal design. Throughout PPR phases, observations during unstructured classroom time showed that prosocial interactions increased while antisocial interactions decreased to a low level (Hoff & Ronk, 2006). These studies clearly show that public peer reporting is an effective way of decreasing problem behavior in both general education and special education classrooms.

Recently a classwide version of PPR, known as Tootling, has evaluated changes in the amount of prosocial behavior reports in the classrooms following implementation of this intervention (Cashwell et al., 2001; Skinner et al., 2000). The Tootling intervention targets prosocial behaviors of student-helping-student interactions by integrating a group reward contingency. Tootling was named by combining "tooting your own horn" and tattling, which teaches students to tattle on prosocial behavior instead of disruptive behavior. Tootling and PPR are similar in that they both train students to monitor prosocial behavior of peers, but these interventions differ in their methods of reporting. While PPR uses public reporting, Tootling uses

private reporting throughout the day, where students write prosocial statements on index cards by including a) who, b) helped who, and c) what prosocial behavior was demonstrated. At the end of the day, a few index cards are read aloud by the teacher and then all prosocial behavior reported on index cards are counted and added to the group feedback chart displayed in the classroom. The group contingent reward usually consists of some type of fun class activity and each day the number of prosocial reports on index cards add to a cumulative total of the goal set by the teacher and class.

There have been two recent studies integrating Tootling as a classwide intervention (Cashwell et al., 2001; Skinner et al., 2000). Both of these studies used an A-B-A-B design and showed an increase in prosocial behavior reports during the intervention phases. These studies showed how Tootling increased prosocial behavior reports through private peer reporting, interdependent group contingencies, and posted progress feedback. Tootling has proven to be effective in increasing the number of prosocial behavior reports of students-helping-students, but these studies did not focus on the level of disruptive behavior in class. Since disruption, not low rates of prosocial behavior, has more often led to office referrals in the school system, future studies in this area are needed to investigate if the disruption level is decreasing as well (Morrison & Jones, 2006).

One study has integrated both PPR and Tootling as an intervention by using the classwide feature of Tootling and the public reporting feature of PPR (Morrison & Jones, 2006). Teachers and aides collected data on students' inappropriate behavior during class, lunch and transition periods, as well as their sociometric status nominations. During the intervention, a "wheel of chance" randomly selected both the student providing the verbal praise and the student receiving the praise. Edible reinforcers were awarded to both students who participated. A multiple

baseline across subjects showed that maladaptive social behavior reports from teachers decreased after the intervention was implemented in both classes. Also, the number of sociometric nominations of "socially isolated" students decreased in both classrooms during the treatment phase. Since PPR and Tootling are both effective interventions for increasing positive effects in both students and classrooms, the integration of both interventions is a promising method for decreasing problem behavior and increasing prosocial behavior.

PPR and Tootling have independently been shown to be effective classwide interventions (Cashwell et al., 2001; Grieger et al., 1976; Hoff & Ronk, 2000; Morrison & Jones, 2006; Skinner et al., 2000). Reporting prosocial behaviors publicly in PPR has been shown to decrease problem behavior and increase positive behavior through social reinforcement of peer praise. It has been shown that these positive prosocial statements given by peers increase the students' probability of engaging in prosocial behavior in the future (Hoff & Ronk, 2006). Conversely, private reporting in Tootling has demonstrated an increase in prosocial behavior reports by using interdependent group contingencies and posted progress feedback (Cashwell et al., 2001). Since PPR and Tootling are fairly new classwide interventions, no studies have evaluated the differential effects of public versus private reporting on disruptive behavior.

Current Study

Given the effectiveness of the integration of PPR and Tootling as classwide interventions (Morrison & Jones, 2006), a similar approach was used to evaluate the effects of public and private praise reporting on disruptive behavior. A classwide version of Public PPR was compared to Private PPR to determine its effectiveness on classroom disruption. The Morrison & Jones' (2006) study used individual rewards and social praise as reinforcers; alternatively, a group reward contingency for both Public and Private PPR was used in this study. It was

anticipated that both the Public and Private PPR interventions would have an effect on decreasing disruptive behavior. However, previous PPR studies resulted in lower negative interactions by using peers to publicly praise target students rather than privately reporting prosocial behavior (Bowers et al., 1999; Ervin et al., 1996; Ervin et al., 1998; Grieger et al., 1976; Johnson-Gros & Shriver, 2006; Morrison & Jones, 2006). Based on previous evidence, it was anticipated that social reinforcement from peers in the form of public praise would contribute to the overall effectiveness of the Public PPR intervention.

METHOD

Participants and Setting

Participants in this study consisted of three general education third grade classrooms and their teachers in a school district located in Louisiana. Participant selection was based on teacher or principal referrals of disruptive classroom behavior. The teachers, parents, and students gave consent to participate in this study. The interventions were implemented in each participating class during the school day. All observations were conducted during classroom instruction, classroom activities, or small group activities.

Materials

An *Examples of Praise* poster (Wright, 2002) was displayed in front of each classroom to provide students examples of prosocial praise statements. An adapted version of *What is Praise?* poster (Wright, 2002) was posted in the front of the classroom to inform students of how and why praise is used. Two different colors were used to distinguish which intervention was used on any given day. A red poster signified the Public PPR intervention. A blue poster signified the Private PPR intervention. Both posters listed the rules for its corresponding intervention. Colored cutout stars were purchased and each student's name was written on a star. Each star had a Velcro sticker attached on the back in order to mount the star on a board or wall. A colored token was given to the class if they met the requirements of the intervention. The token color coincided with the intervention of the day. A timer was given to each teacher in order to signal the end of the allotted time for PPR. Index cards (3 x 5) were used for the Private PPR intervention. A partial interval recording sheet and an interval timer were used by researchers to record observations. Each partial interval recording sheet listed recording instructions and definitions for each behavior of interest. A red and blue folder was given to each teacher, one for each

intervention. Each folder consisted of a checklist of all the steps of the corresponding intervention and a direct behavior rating scale (DBR) of students' positive interactions for each day. A yellow folder was also given to each teacher that contained DBRs for regular classroom management days. A schedule of the order of interventions with its corresponding dates was given to each teacher.

Direct Observations

Observations were conducted daily during instruction and cooperative learning activities when disruptive behavior was likely to occur. Each teacher identified a time when disruptive behavior was more likely to occur and observations were recorded within that time frame. Prior to each observation session, a student and direction of rotation (e.g., clockwise/counterclockwise or left/right, depending on the classroom setup) was randomly selected. Before an observation session began, the number of students present in the classroom was counted and multiplied by three to determine the last interval on the recording sheet that would be recorded. This procedure was implemented due to the number of students entering and leaving the classroom during the observation sessions. One observation session ended when three observational rotations around the classroom were completed. An observation session ranged from 10 min to 13.5 min in length. A 10-s partial interval recording system was used to record disruptive behavior for each student in the classroom. A vibrating interval timer was used to inform researchers when to record behavior and when to move on to the next 10-s interval. At the end of the first 10-s interval, the timer vibrated to alert researchers to record instances of on-task behavior or disruptive behavior and to begin observing the next student. At the beginning of each 10-s interval, another observation interval began for the student seated next to the previously

observed student. The researchers continued their 10-s observations of each student by rotating around the classroom in the direction selected prior to each session.

Dependent Measures

Disruptive behavior was scored if the student was off-task, out of seat, talking out of turn, aggressing toward others, and/or engaging in property destruction during a 10-s interval. *Off-task* behavior was operationally defined as a student's eyes diverted away from academic task, work material, teacher instruction or instructional instruments (e.g., overhead), or a fellow student answering a teacher's instructional question for more than three consecutive seconds, except during breaks or transitional periods. *Out of seat* behavior was defined as any time the student was not in an assigned area without teacher's permission, which included walking around the room, standing, and/or the student's lower body breaking contact with the chair. *Talking out of turn* behavior included verbal statements such as calling out answers, talking/whispering to other students, and/or making noise without teacher's permission (Lohrmann & Talerico, 2008). *Aggressive interactions* included kicking, hitting, shoving, poking and projection of an object in the direction of another person (Ervin et al., 1998). *Property destruction* was defined as ripping, throwing, banging objects, or any other inappropriate use of an object. An '*X*' was recorded on the interval sheet when any of the disruptive behaviors listed above occurred within a 10-s interval. An '*O*' was placed on the interval box when on-task behavior occurred throughout a 10-s interval. *On-task* behavior was defined as a student's eyes directed toward the teacher, instructional instruments, work materials, academic task, or towards a fellow student answering a teacher's instructional question. Any behavior that was not included in any of the disruptive behavior definitions was considered on-task.

One exception to the operational definitions of on-task and off-task behavior occurred when natural classroom breaks and transitional periods took place during the observational session. Breaks/transitional periods were defined as short periods of time when the teacher was not instructing the class or the student was not assigned independent seat work. Students were not able to be on-task when no instructions or assignments were given during breaks or transitional periods. During these periods, students were allowed to exhibit behaviors that were listed in the definition of off-task behavior and still be considered on-task as long as no other disruptive behavior was occurring. For instance, students were allowed to have their eyes diverted away from the teacher or work material during breaks or transitional periods for more than 3 sec since the teacher was not instructing during these periods. Finally, when students left the classroom during their observation interval within a rotation a '—' was recorded for that interval to represent that those students did not contribute to the overall percentage of the classroom behavior for that rotation.

Design

PPR was evaluated in three classrooms using an alternating treatments design with an initial baseline. The baseline condition continued as a Control condition during the alternating treatments phase in order to compare the percentage of disruptive behavior during the Control condition to the intervention conditions. The design was also used to observe the effectiveness of two PPR interventions by comparing the percentage of disruptive behavior of both interventions. Levels of disruptive behavior were analyzed by visual inspection in order to compare changes in behavior during alternating conditions for all classrooms. Random selection was used to vary the sequence of conditions during the alternating treatments phase. Each condition was administered before it was randomly selected again.

Procedure

Procedures were implemented by the classroom teacher and the researcher enrolled in the school psychology program at a local university. The researcher met with the participating teachers to discuss the purpose of the study and to explain their responsibilities throughout the study. PPR training sessions began after baseline observations for all classrooms while current classroom management was in place.

Baseline

The teacher continued the current classroom management plan during baseline and during the Control condition. The researchers collected data on disruptive behavior during class instruction and class activities. The first randomly selected condition was implemented when the rates of disruptive behavior were stable during baseline phases for all classes. At least three data points were needed during the baseline phase in order to proceed to the alternating treatments phase.

Training Students

Before the alternating treatments phase began, the researcher and teacher conducted a 15-min training session for each intervention prior to implementing the intervention. The students learned to correctly report and write prosocial praise statements during these training sessions. A *What is Praise?* poster (Wright, 2002) was used the first day of training to help students understand the meaning of praise and why praise is used. A revised *Examples of Praise* poster (Wright, 2002) was displayed at the front of the classroom to provide visual examples of how to verbally report and write prosocial praise statements. Praise and corrective feedback was used to generate good examples from students throughout both training sessions. The teacher and researcher taught the students how to verbally report prosocial praise to classmates by providing

them with examples and then asking them to give examples of their own during one of the 15-min training sessions. Initially, students were asked to include *who* engaged in prosocial behavior and *what* kind of prosocial behavior was observed from that student. An example of a good prosocial praise statement was, "Today Mary helped Jan pick up her books when they fell on the floor." Corrective feedback and praise were given by the teacher and researcher until all students provided accurate verbal praise statements.

The second 15-min training session trained students how to write a prosocial praise statement on an index card. The teacher and researcher reviewed prosocial praise statements with students using the same approach from the first training session. Index cards were passed out and students were given a chance to practice writing their prosocial praise statement on the card. The students were asked to include a peer's name and what type of prosocial behavior was observed. Index cards were collected and read aloud to provide feedback and praise of the written prosocial praise statements. Each class was considered trained once each student provided a satisfactory example of both verbal and written praise statements. At the end of the last training session, the teacher and researcher informed the class that they would be beginning a peer reporting game the next day. Several classroom reward options were written on the board and the classroom voted on which option they preferred. The reward option with the majority of votes was chosen as that class' group reward for meeting the interventions goal.

Public Positive Peer Reporting

This intervention was similar to previous PPR studies and included a group reward contingency. At the beginning of each day during this intervention, the teacher announced that it was "red day" and placed a red poster in the front of the classroom containing the guidelines of the game. The first day of the intervention, the teacher began by giving examples of prosocial

praise statements and asked students to give examples of their own which was followed by praise and feedback. After the initial day, the teacher only reviewed the steps of how to provide prosocial praise by including who showed prosocial behavior and what type of prosocial behavior was seen. The teacher randomly selected three student names from a bag to be the "stars of the day" at the beginning of the day and these names were placed on the board. Those students who were selected were not selected again until each student in the class had a chance to be the "star of the day." The teacher announced that at the end of the day the students would be given 10 minutes to publicly report any prosocial praise statements to the "stars of the day." The teacher introduced the group reward contingency on the first day of Public PPR. The teacher explained that the class reward chosen during the training session would be awarded when the class reported at least 10 prosocial praise reports. At the end of each day during this intervention, 10 minutes were designated for publicly reporting any prosocial behavior. The teacher asked the students if they saw any prosocial behavior performed by the "stars of the day." The teacher called on raised hands and only counted correct and verbal reports. Each "star of the day" had to receive a praise report before the students could continue giving praise reports to meet their goal. The teacher placed a tally mark on the board for every public praise report. At the end of the allotted time, the class received a red token if there were at least 10 correct verbal praise reports. The red token was exchanged for the class reward (e.g., extra recess time) on the next Public PPR day. In other words, a red token could only be exchanged on the next "red day." The teacher did not count any praise statements reported incorrectly and provided orrective feedback when students reported praise incorrectly.

Private Positive Peer Reporting

This intervention had similar procedures as the Public PPR intervention, but instead

students wrote prosocial praise statements on index cards rather than publicly reporting behavior. The teacher began each day similarly to the Public PPR intervention; but instead, "blue day" was announced at the beginning of the day and a blue poster listing the rules was placed in the front of the classroom. The teacher verbally reviewed good examples of prosocial praise statements at the start of the day. The teacher randomly selected three student names from a bag to be the "stars of the day" and placed the names on the board at the beginning of the day. Those students who were selected were not selected again until each student in the class had a chance to be the "star of the day." The teacher introduced the group reward contingency on the first day of the Private PPR intervention. The teacher explained that the class reward chosen during the training session would be awarded when the class turned in at least 10 correctly written praise reports on index cards. At the end of each day during this intervention, the teacher handed out index cards to the students and they had 10 minutes to privately report any prosocial behavior. The teacher announced to the students that each "star of the day" had to receive a praise statement on an index card in order to meet their goal. The teacher collected the index cards at the end of the allotted 10-min writing session and placed a tally mark on the board for every index card written correctly. The teacher then gave the index cards to the "stars of the day" and those students were allowed to keep them. The class received a blue token if there were at least 10 correctly written praise reports on index cards. The blue token was exchanged for the class reward on the next Private PPR day. The teacher did not count any incorrect praise cards but did provide corrective feedback.

Procedural Changes

Two procedural changes occurred for Classroom A and B once the alternating treatments phase commenced. After the first week of treatment, it was noted that the students in these

classrooms were providing non-descript praise statements during PPR sessions, such as "Susie was being good today." Students were then asked to include *when* the prosocial behavior occurred to their praise statements in order to specify when the prosocial behavior was observed. The second procedural change for the first two participating classrooms was to move the selection of the "stars of the day" to the end of the day. The procedure was initially set up so that all students were aware of who the "stars of the day" were all day; therefore, the target students were *Known*. The time of selection was changed so that the "stars of the day" were chosen prior to the praise reporting session; therefore, the "stars of the day" were *Unknown* all day. This adjustment took place after high percentages of classroom disruption persisted once both interventions were implemented for a week. It was assumed that students who were not selected to be "stars of the day" in the morning continued to disrupt throughout the day since fellow students were not observing their behavior. It was expected that this procedural change would increase the likelihood that all students would engage in appropriate behavior throughout the day just in case they were selected to be "stars." Both procedural modifications were announced to both classes and added onto the posters containing the list of rules for both interventions.

Acceptability and Direct Behavior Ratings

Teachers and students rated treatment acceptability for both interventions. Treatment acceptability was collected by assessing each teacher's reaction to the intervention using the Intervention Rating Profile 15 (IRP-15) (Witt & Martens, 1983). The IRP-15 used a 5-point Likert scale ranging from *Strongly Disagree* to *Strongly Agree*. The students also completed a Children's Intervention Rating Profile (CIRP) (Witt & Elliott, 1985) for both interventions and the Control condition. Each CIRP form had six questions with a 6-point Likert scale ranging from *I Agree* to *I Do Not Agree*. The CIRP question stating "*My teacher was too harsh on me*"

was dropped because it did not pertain to the peer-based quality of the interventions implemented. The total scores for the adapted CIRP ranged from 6-36 with a treatment acceptability score being 21 or greater. The rating scales were given for each intervention in order to determine if there were any differences in treatment acceptability between any of the conditions

A folder containing Direct Behavior Rating (DBR) scales was distributed to all teachers to fill out at the end of the day for each condition. The DBR forms listed two questions that asked the teachers to rate the question using a 7-point Likert scale ranging from *not true* to *very true*. One DBR question asked the teacher to rate how well the students followed directions and stayed on-task for 90% of the day. The second question asked the teachers to rate how well the students positively interacted with each other. DBR scales were used to evaluate teachers' perceptions of students' prosocial behavior during each condition in the alternating treatments phase.

Treatment Integrity and Interobserver Agreement

The teachers received a checklist consisting of all the steps for each intervention. The checklists included the following steps: posting the appropriate poster at the beginning of each intervention day, announcing "red day" or "blue day," reminding students of what to include in the praise statement, selecting three names to be "stars of the day," writing/placing the students names on the board, asking the class to report any praise seen from the "stars of the day," reviewing a good example of a praise statement, announcing that each "star of the day" must receive a praise statement in order for the class to reach their goal, setting the timer for 10 minutes, calling only on students with raised hands to report praise during the Public PPR session, collecting all index cards at the end of the Private PPR session, placing a tally mark for

every correct praise statement, counting the tally marks at the end of the 10-min PPR session, placing the correct token in the jar if 10 praise statements were given, providing corrective feedback for incorrect praise statements, and providing class reward in exchange for the token on the appropriate day.

Treatment integrity is an important factor in measuring the independent and dependent variables because without precise information of treatment implementation, a significant change in dependent measures would be inconclusive (Gresham, Gansle, & Noell, 1993; Witt, Noell, LaFleur, & Mortenson, 1997). The researcher assessed if the teachers completed each step of both interventions. Treatment integrity was implemented correctly for both interventions for at least 80% of the sessions and if the criterion was not met, the primary researcher retrained one or all of the procedures. The researcher collected data on treatment integrity for 43% of intervention sessions for Classroom A, 22% of intervention sessions for Classroom B, and 33% of intervention sessions for Classroom C. Teacher A implemented the Public and Private PPR intervention steps correctly for a mean of 90% and 80%, respectively. Teacher B implemented Public and Private PPR intervention steps correctly for a mean of 98% and 81.5%, respectively. Treatment integrity was collected for three out of the nine PPR sessions in Classroom C. Teacher C implemented the steps correctly for a mean of 92% for the Private PPR condition. Treatment integrity was collected for one Public PPR session and Teacher C implemented the intervention with 100% integrity.

Research assistants were trained on 10-s interval observations. Training continued until 90% agreement was obtained for three consecutive sessions. Interobserver agreement (IOA) was calculated by adding all agreements and dividing it by the total number of agreements and disagreements for each interval and multiplying by one hundred. IOA was calculated for 21% of

sessions for Classroom A and mean of 92.5% agreement was reached (range: 82-100%). IOA was calculated for 30% of sessions for Classroom B and agreement was achieved for a mean of 93% of intervals (range: 91-97%). In Classroom C, IOA was calculated for 25% of all sessions and the mean agreement was 94.5% (range: 91-97%).

RESULTS

Figure 1 illustrates the mean differences in percent of intervals with disruption for each condition in each participating classroom as well as the total mean of both treatment conditions. Figures 2, 3 and 4 display classroom observational data collected during baseline and alternating treatments phase for Classrooms A, B, and C. Results for the percent of intervals with disruptive behavior were calculated and presented in all of the figures. For figures 2, 3, and 4, open circle markers represent regular classroom management (also described as the Control condition), square markers represent the Public PPR condition, and triangle markers represent the Private PPR condition. It was hypothesized that during the alternating treatments phase high percentages of disruptive behavior would continue throughout the Control condition. It was also anticipated

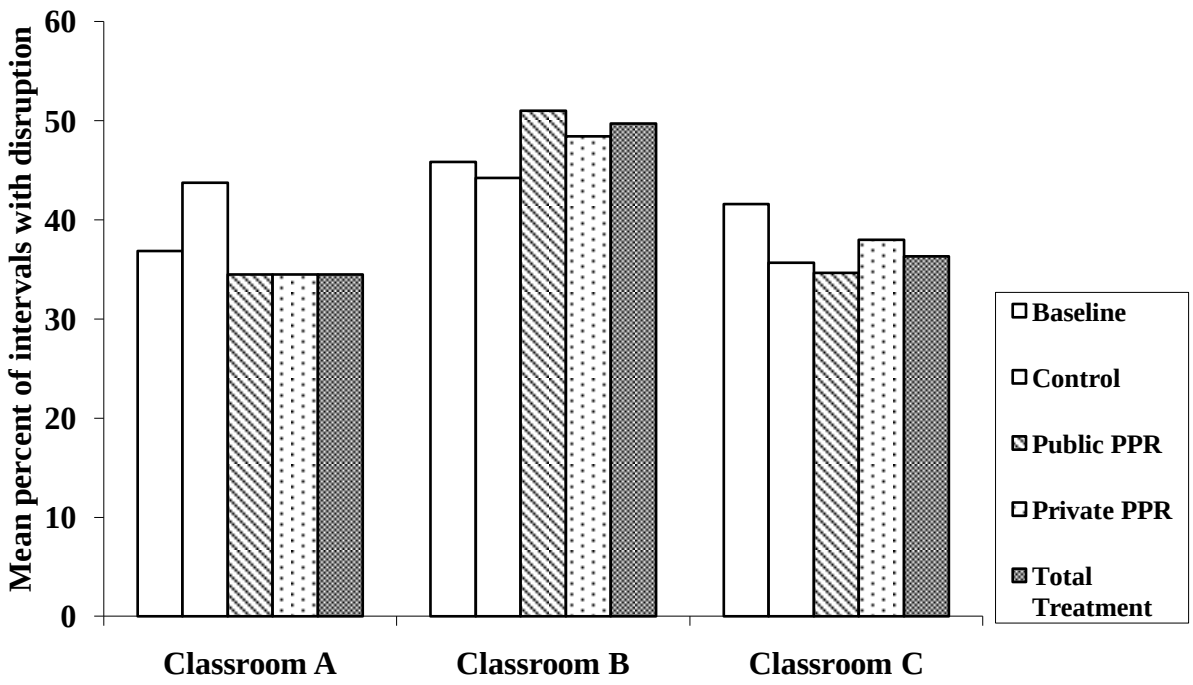

Figure 1. Mean differences in percent of intervals with disruption for baseline, Control, Public PPR, Private PPR conditions and total treatment in Classroom A, B, and C.

that both PPR interventions would result in a significant reduction of disruptive behavior in all classrooms. Finally, it was expected that the Public PPR intervention would be more effective in decreasing disruptive behavior by displaying consistently low percentages of disruption versus the Private PPR intervention.

Classroom A

Classroom A's mean level of disruptive behavior at baseline was 36.86% (Figure 1). Once the alternating treatments phase began there was an initial decline in disruption for both PPR conditions which subsequently increased to near baseline level of disruption (Figure 2). In the third phase of Figure 2, a procedural change to *Unknown Stars* was implemented after six

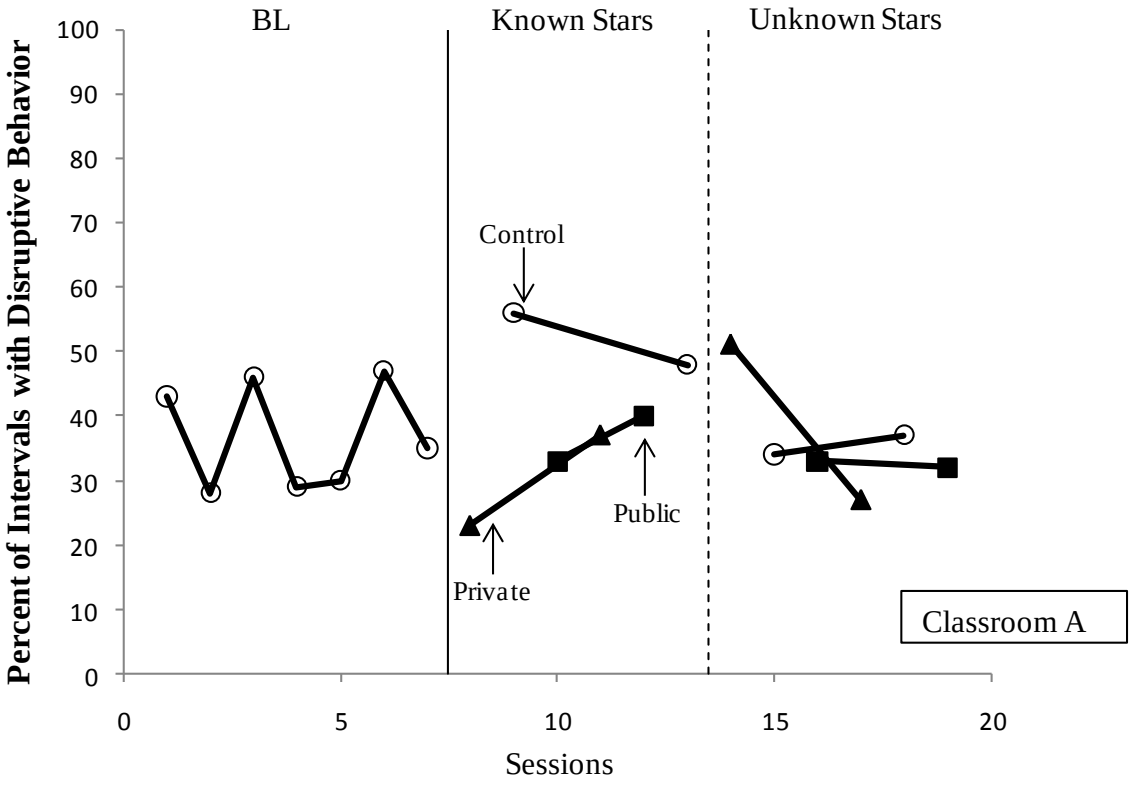

Figure 2. Percent of intervals with disruption for Classroom A during baseline and alternating conditions. A procedural change from Known Stars to Unknown Stars is demarcated by the dashed phase line.

sessions and disruption was near baseline level and similar across conditions. The mean disruptive behavior for the entire treatment phase was 43.75% during the Control condition and 34.5% for both PPR conditions (Figure 1). It was anticipated that the percentage of disruptive behavior in the Public PPR condition would be less than the Private PPR condition, but there was no difference in mean levels of disruptive behavior between treatment conditions.

Classroom B

Classroom B's mean level of disruptive behavior was 45.86% at baseline and minimally decreased to 44.2% of intervals with disruptive behavior du ring the Control condition throughout the alternating treatments phase (Figure 1). The alternating treatments phase did not display a decrease in disruption levels after PPR interventions were implemented (Figure 3).

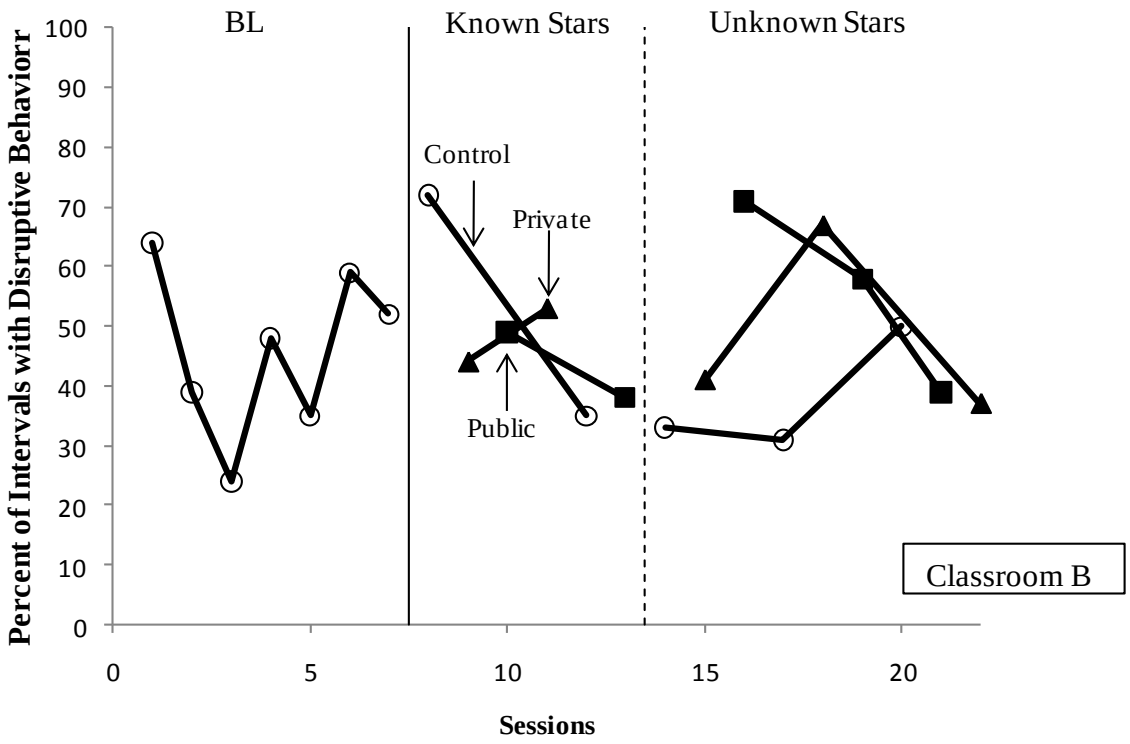

Figure 3. Percent of intervals with disruption for Classroom B during baseline and alternating conditions. A procedural change from Known Stars to Unknown Stars is demarcated by the dashed phase line.

The level of disruptive behavior increased slightly from the baseline mean of 45.86% to 51% during the Public PPR condition and 48.4% during the Private PPR condition. Initially, there was no reduction during the first two sessions in both PPR conditions, so the *Unknown Stars* procedural change was introduced. After the procedural change, disruption increased above baseline level for both PPR conditions.

Classroom C

Classroom C's baseline mean of intervals with disruptive behavior was 41.57% (Figure 1). Once the alternating treatments phase was implemented, the level of disruption decreased for all conditions (Figure 4). The Control, Public PPR, and Private PPR conditions had mean

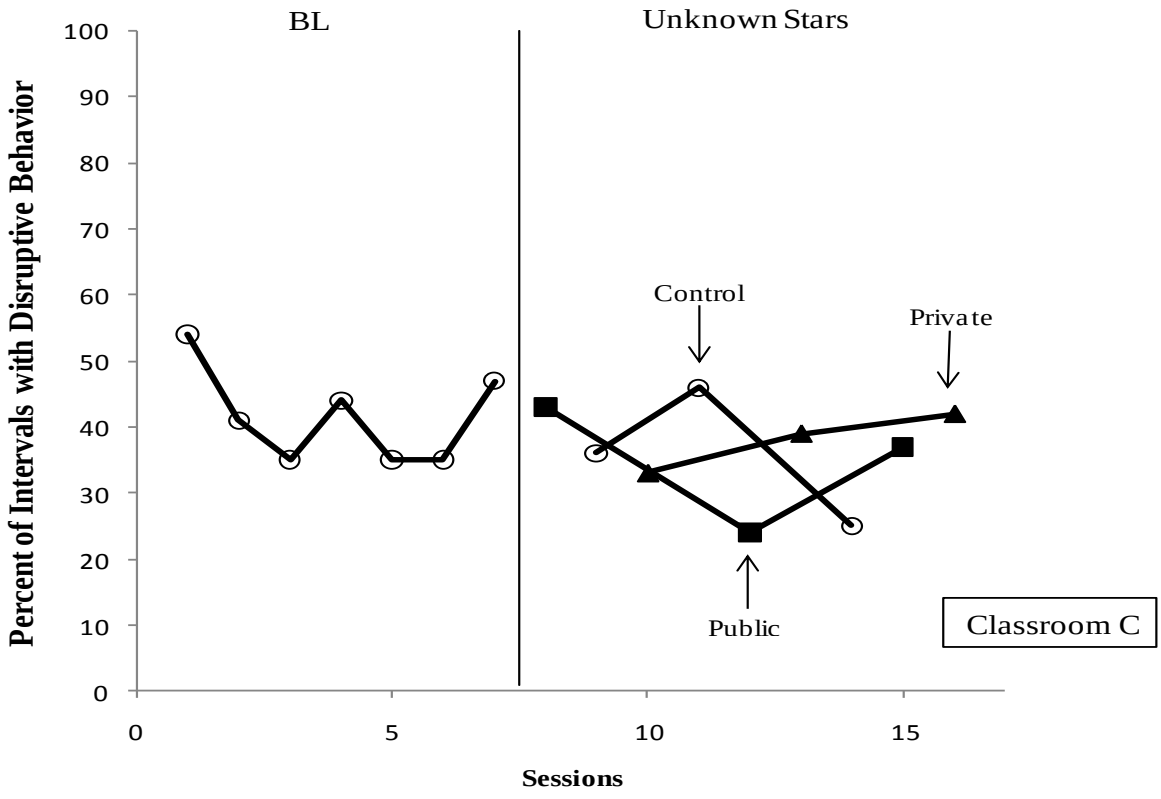

Figure 4. Percent of intervals with disruption for Classroom C during baseline and alternating conditions.

disruptive behaviors of 35.67%, 34.67% and 38%, respectively. No differentiation was evident among conditions.

Acceptability and Direct Behavior Ratings

Acceptability and behavior ratings were collected for each participating class. Two folders containing completed DBR and CIRP surveys for Classroom B were in the classroom over the summer break. After the school break was over the folders containing rating scale data were not relocated due to summer cleaning of the classrooms. Teacher C also did not complete any of the DBR scales even after many reminders. IRP-15 data for all participating classes will be reported, CIRP ratings will be reported for two out of three classes, and DBR data from Classroom A will be discussed.

Teacher A's IRP-15 scores for the Public and Private PPR interventions were 80 and 84, respectively, suggesting that she found both interventions highly acceptable for the problem behavior exhibited in the classroom. Teacher B's acceptability scores for both interventions was 62 out of 90, suggesting that this teacher found these interventions slightly acceptable for disruptive behavior displayed in her classroom. Teacher C's IRP-15 scores were 35 for the Public PPR intervention and 36 for the Private PPR intervention, implying that Teacher C found both interventions unacceptable for decreasing disruption in her classroom setting.

Participating students completed three CIRP rating scales, one for each condition. The total mean CIRP scores for Control, Public PPR and Private PPR condition for students in Classroom A were 23.21, 26.63, and 25.16, sequentially. The regular classroom management plan, the Public PPR and Private PPR intervention were all found acceptable by Classroom A's students. Classroom C rated all the conditions acceptable with a total mean score of 24, 24.62, and 23.44 for Public PPR, Private PPR and Control condition, respectively.

DBR data was collected each day of the alternating treatments phase. The overall average score of prosocial behavior across the Control Condition and Public PPR condition was rated as being *somewhat true* by Teacher A. Also, the overall average DBR ratings across the Private PPR condition was rated as slightly above *somewhat true* by Teacher A.

DISCUSSION

Recently, the evidence-based PPR intervention has been examined in four classwide studies to evaluate the effects of peer praise on prosocial and negative interactions in students (Hoff & Ronk, 2006; Grieger et al., 1976; Hofstadter, Jones, & Therrien, 2009; Morrison & Jones, 2006). The current study was conducted to not only extend the research on PPR as a classwide intervention, but also to determine the effects of classwide PPR on classroom disruption in third grade general education classrooms. Furthermore, this study analyzed the differential effects of praise type (i.e., public and private praise) on classwide disruption. It was hypothesized that PPR would be an effective intervention in decreasing overall disruptive behavior; moreover, the Public PPR condition was predicted to display a more robust effect in decreasing the percentage of overall disruption in comparison to the Private PPR condition.

This study found that PPR, as a classwide intervention, was ineffective in decreasing the percentage of disruption to a meaningful level in the participating third grade classrooms. These results were observed even after a procedural change was implemented for Classrooms A and B. Overall, there was only a minimal reduction of disruption during both PPR interventions in Classroom A and an increase of disruption during PPR conditions in Classroom B. After failing to see an effect, it was hypothesized that high percentages of disruption persisted for Classrooms A and B because PPR was implemented at the end of year when instruction was at a minimum; therefore, the interventions were implemented with these new procedures at the beginning of the year for Classroom C .There was a slight decline in disruption from baseline to the Public PPR condition in Classroom C, but an increase in disruption was observed for the Private PPR condition. It is very important to note that Classroom C only contacted reinforcement for one Private PPR session because the students were not able to meet their praise statement goal.

Unfortunately, Teacher C withdrew from the study within two weeks after the alternating treatments phase was implemented; therefore, a procedural change to increase the likelihood of students earning a reward (e.g., decreasing the number of praise statements required) could not be made.

Additional data were collected to determine intervention acceptability for teachers and students. Treatment acceptability data has been collected in previous PPR studies and found high treatment acceptability among teachers (Ervin et al., 1996; Hofstadter et al., 2009; Jones et al., 2000, Moroz & Jones, 2002), which is consistent with Teacher A and Teacher B's acceptability ratings. Teacher A found both intervention types highly acceptable and stated, "I can definitely see the merit of this [PPR intervention] and plan to use it in the future." Teacher C's acceptability scores were very low which does not corroborate with previous studies treatment acceptability findings. She stated that the intervention was ineffective and caused more behavioral problems instead of decreasing disruption; moreover, she claimed that the interventions took too much instructional time away from the students, especially since she only taught the class for half a day.

Data on students' acceptability ratings of classwide PPR were also collected in the current study. Only one other study has collected CIRP data which found favorable student acceptability of classwide PPR for on-task behavior (Hofstadter et al., 2009). Similar to that study, the current study found high student acceptability for both classwide PPR conditions, but there was no difference in acceptability for any of the conditions implemented (including the Control condition) suggesting that the students did not prefer PPR over their current classroom management plan.

DBR data was collected on students' overall prosocial behavior for Classroom A to evaluate whether prosocial behavior ratings were higher for a specific condition and to determine if the ratings corroborated with a decrease in disruption levels for that condition. Teacher A reported similar ratings of prosocial behavior across conditions indicating PPR did not have an effect on prosocial behavior. It was also found that DBR data for prosocial behavior was inconsistent with the persistent high levels of disruption (i.e., prosocial behavior was reported even following sessions with high levels of disruption), suggesting that these two behaviors are independent from each other unlike previous literature has suggested. For example, Grieger et al. (1976) found when aggressive acts decreased, cooperative play simultaneously increased once classwide PPR was implemented. This inverse relationship was not observed in the current study, which may be due to the current study's operational definition of the dependent variable. This is the first study using disruption as a dependent variable which includes general disruptive classroom behaviors, such as off-task, out of seat, talking out of turn, etc., that were not included in previous studies. This broad response definition may have contributed to the ineffectiveness of PPR as a classwide intervention. It could be that PPR only has an effect on negative peer-based interactions and high-intensity maladaptive behavior rather than general disruptive behavior in the classroom.

This study is similar to previous research in that classwide PPR was not effective in reducing inappropriate behavior. Hoff and Ronk (2006) found that classwide PPR increased the class' prosocial interactions, but the percent of intervals with negative interactions remained the same as baseline level after PPR was implemented. Morrison and Jones (2006), on the other hand, had mixed results for both of their participants. In one class, classwide PPR substantially reduced the average number of weekly critical events in the classroom; whereas, the study's

second participating class had only minor decrements in teacher reported critical events. The latter results are similar to the present findings in that only minor reductions were observed for Classroom A and Classroom C (2.36% and 5.24%, respectively) after PPR conditions were implemented.

While in some cases classwide PPR has been effective in increasing prosocial behavior and decreasing negative behavior in students, PPR is not a function-based intervention and may not be effective for all students, especially for those who are not reinforced by peer attention (Skinner et al., 2002). Although prosocial behavior was not directly measured, anecdotally, most students in the participating classrooms appeared to be more sensitive to teacher attention than to peer attention. A possible solution for students maintained by negative teacher attention would be to incorporate a differential reinforcement technique such as differential reinforcement of alternative behavior (DRA) by having teachers only provide attention for only appropriate classroom behavior. The added component of DRA to classwide PPR may impact the effectiveness of the intervention by reinforcing positive behavior using both peer and teacher praise which may indirectly decrease negative behavior by eliminating peer and teacher attention for inappropriate behavior.

Several limitations should be considered before implications can be drawn regarding the current study. One limitation is that the effect of classwide PPR on disruption was not evaluated alone since the differential effects of two praise types (i.e., public versus private praise) on disruption was also being assessed. Since this is the first study using disruption as the dependent variable, the effect of one praise type should be evaluated in isolation before any implication can be made regarding the ineffectiveness of classwide PPR on disruption. Future research should examine the effects of Public PPR (the classic PPR approach) on individual or classwide

disruption in order to rule out carry over effects that could have occurred with the use of an alternating treatments design. This would also allow for extended classwide PPR sessions and eliminate intermittent control conditions. Furthermore, previous PPR studies measured the effects of public peer praise on prosocial and negative interactions (Bowers et al., 1999; Bowers et al., 2000; Ervin et al., 1998; Ervin et al., 1996; Hoff & Ronk, 2006; Jones et al., 2000; Moroz & Jones, 2002); therefore, future research should assess the effects of private praise on prosocial and negative peer interactions using the Private PPR protocol.

Another limitation of the current study was that a proactive reinforcement strategy (PPR) was being implemented to determine the effects on disruption, while the current reactive punishment system was still in place for disruption. That is, throughout the PPR conditions, participating teachers continued to apply their classroom management plan that relied heavily on punishment to decrease disruptive behavior through a response cost program. Also, some participating students were periodically sent to a Time Out Room (TOR) or suspended during the study for engaging in maladaptive behavior. This reactive system was not only in place in the participating classrooms, but also on a schoolwide level. For example, during one treatment session, students in Classroom B lost their PPR reward of extra recess because a nonparticipating teacher did not allow the students to access recess due to disruptive behavior in the lunchroom. These are all examples of threats to internal validity of the present study, and should be controlled for in future research of classwide PPR by ensuring only one strategy is being used.

The additional features added by the participating teachers during the PPR procedure are another study limitation regarding treatment integrity. Treatment integrity data was collected by the primary researcher to ensure that the teacher was implementing PPR interventions with accuracy. Each teacher was provided a list of steps to follow for each PPR intervention, while

treatment integrity was collected by the researcher by using the same list of steps and then calculating the percentage of completed steps. All teachers implemented at least 80% of the steps accurately, but this percentage does not account for those instances where features were added by the teacher. Features such as reprimanding "stars of the day" for behaving badly and having students throw away their praise cards for talking during PPR sessions were anecdotally observed. Although there have been several studies on strategies used to ensure that teachers follow through with correct intervention implementation (Noell, Witt, Gilbertson, Ranier & Freeland, 1997; Noell et al., 2005; Witt et al., 1997), there has not been research on how to prevent teachers from adding steps to the procedure that could potentially undermine the intervention's effectiveness.

Despite the growing evidence of the positive effects of PPR on prosocial behavior, there has been no research that the author could locate on the negative side effects that this type of intervention could induce in teachers and peers alike. It appeared that instead of PPR increasing the awareness of positive behavior, it increased the awareness of the negative behavior or the lack of positive behavior occurring in the classroom. During PPR sessions, teachers commonly reprimanded "stars of the day" for not engaging in prosocial behavior or for misbehaving. In one participating class, "stars" who were known as the highly disruptive student, were not only ridiculed by public statements of disapproval, but it also led to many complaints from fellow classmates because they knew they would not be receiving their reward for that day. It was unsystematically observed that one of these "stars" became highly upset and began to argue with his fellow classmates. These negative side effects can emerge during interdependent group contingency procedures when the group realizes that they cannot reach their goal in order to receive reinforcement. Students will then engage in emotional behavior, such as disappointment

or anger, or other inappropriate behavior (Kelshaw-Levering, Sterling-Turner, Henry & Skinner 2000). In many instances, students in the participating classrooms made fictitious praise statements about the "stars of the day" just to meet the required goal, which led to teachers reprimanding students for lying. Fabrication of praise statements most likely occurred because the interdependent contingency was dependent on a select number of "stars" that were disruptive; therefore, the students had to lie about observed appropriate behavior to attain their reinforcement goal. In other situations, students began bragging about the large amount of praise cards they had received and teasing their fellow "stars of the day" for only receiving a few amount of praise cards. The latter situation could be a side effect that may occur in a Tootling intervention, rather than a typical PPR procedure, since praise index cards are used instead of public peer praise. Further work is still needed in this area to eliminate potential negative social consequences that PPR and possibly Tootling could possibly induce, especially when interdependent contingencies are utilized. One way to increase the effectiveness of an interdependent group contingency, and reduce negative side effects, is to randomize target behaviors, reinforcers, or group contingencies (i.e., alternating between independent and interdependent group contingencies) (Kelshaw-Levering et al., 2000; Murphy, Theodore, Aloiso, Alric-Edwards & Hughes, 2007).

Given that negative side effects may be associated with interdependent group contingencies, an alternative would be to use an independent group contingency. It may be that inappropriate behavior would be more effectively reduced if students were individually rewarded for their appropriate behavior rather than depend on the whole class' participation. There were several treatment sessions in this study, especially in Classroom C, where the whole class was not reinforced because of the class' inability to produce praise statements for the "stars of the

day." The choice of group contingencies may be factor in the overall effectiveness of PPR; therefore, future research should compare the differential effects of independent and interdependent group contingencies on a classwide PPR intervention.

A disadvantage of this study was the brief number of sessions in the alternating treatments phase for all participating classrooms. The treatment phase did not last longer than three weeks for any participating classroom and it is assumed that a longer treatments phase would have displayed a clearer representation of the effects of classwide PPR on disruption. It could be that both classwide PPR interventions may have had a more gradual influence in reducing disruption rather than an immediate effect. Previous classwide PPR studies focused on decreasing maladaptive behavior showed an immediate difference in level from baseline after PPR was implemented (Grieger et al., 1976; Morrison & Jones, 2006) which is unlike the present study. More research is needed to determine if the effects of classwide PPR shows an immediate decline in negative interaction or whether a more gradual decline could occur for this type of behavior. This is especially important since teachers may want an intervention with more immediate effects such as Teacher C in this study.

A final disadvantage of this study was the observational system used for the classwide observations. The observational system was replicated from the Hoff and Ronk study (2006) in which observations were conducted by rotating around the classroom. Although the latter study found this method to be effective for observing students, this same observation system was not able to capture all the disruption occurring in participating classrooms. A reason for this could be that Hoff and Ronk (2006) only observed seven students using this rotational observation system; unlike the current study, in which the number of students in the classrooms ranged from 19 to 28. It was also difficult to observe students using this system due to students leaving and

entering the classroom during observation sessions. Future classwide PPR studies should investigate the most practical and efficient way to observe all students in the classrooms.

The present study extends the literature on classwide PPR by evaluating the effects of praise types (public versus private) on classroom behavior. Additionally, this study analyzed the results of classwide PPR on disruptive behavior rather than prosocial behavior, since high rates of disruptive behavior, not low rates of prosocial behavior, are one of the main reasons for office discipline referrals (Morrison & Jones, 2006). There were no significant reductions in disruption observed in any classroom for both public and private praise conditions. An implication of these results is that although previous literature indicates that PPR is effective in increasing prosocial behavior, this class of interventions may not be effective at decreasing disruptive behavior at a classwide level. These results should set the occasion for identifying strategies to increase the success of classwide PPR and to promote future research on the effectiveness of other peer-mediated interventions at decreasing disruptive behavior in the classroom environment.

REFERENCES

Barrish, H. H., Saunders, M., & Wolf, M. M. (1969). Good behavior game: Effects of individual contingencies for group consequences on disruptive behavior in a classroom. *Journal of Applied Behavior Analysis, 2,* 119-124.

Bowers, F. E, McGinnis, J. C., Friman, P. C., & Ervin, R. A. (1999). Merging research and practice: The example of positive peer reporting applied to social rejection. *Education and Treatment of Children, 22*, 218-226.

Bowers, F. E., Woods, D. W., Carlyon, W. D., Friman, P.C. (2000). Using positive peer reporting to improve the social interactions and acceptance of socially isolated adolescents in residential care: a systematic replication. *Journal of Applied Behavior Analysis, 33,* 239-242.

Brophy, J. E. (1983). Classroom organization and management. *The Elementary School Journal, 83*, 264-285.

Cashwell, T. H., Skinner, C. H., & Smith, E. S. (2001). Increasing second-grade students' reports of peers' prosocial behaviors via direct instruction, group reinforcement, and progress feedback: A replication and extension. *Education and Treatment of Children, 24*, 161-175.

Ervin, R.A., Johnston, E.S., Friman, P.C. (1998). Positive peer reporting to improve the social interactions of a socially rejected girl. *Proven Practice: Prevention and Remediation Solutions for Schools, 1,* 17-21.

Ervin, R.A., Miller, P.M. & Friman, P.C. (1996). Feed the hungry bee: using positive peer reports to improve the social interactions and acceptance of a socially rejected girl in residential care. *Journal of Applied Behavior Analysis, 29,* 251-253.

Fergusson, D. M., & Horwood, L. J. (1995). Early disruptive behavior, IQ, and later school achievement and delinquent behavior. *Journal of Abnormal Child Psychology, 23*, 183-199.

Finn, J. D., Pannozzo, G. M., Voelkl, K. E. (1995). Disruptive and inattentive-withdrawn behavior and achievement among fourth graders. *The Elementary School Journal, 95*, 421-434.

Gottfredson, D. C., Gottfredson, G. D., & Hybl, L. G. (1993). Managing adolescent behavior in a multiyear, multischool study. *American Educational Research Journal, 30*, 179-215.

Gresham, F. M., Gansle, K. A., & Noell, G. H. (1993). Treatment integrity in applied behavior analysis with children. *Journal of Applied Behavior Analysis, 26*, 257-263.

Grieger, T., Kauffman, J. M., & Grieger, R. M. (1976). Effects of peer reporting on cooperative play and aggression of kindergarten children. *Journal of School Psychology, 14*, 307-313.

Hoff, K. E., & Ronk, M. J. (2006). Increasing prosocial interactions using peers: Extension of positive-peer reporting methods. *Journal of Evidenced-Based Practices for Schools, 7,* 27-42.

Hofstadter, K. L., Jones, K. M., & Therrien, W. J. (2009). Class-wide effects of positive peer reporting on the on-task behavior of children with emotional disturbance. *Journal of Evidence-Based Practices for Schools, 10*, 2-22.

Johnson-Gros, K. N. & Shriver, M.D. (2006). Compliance training and positive peer reporting with a 4-year old in a preschool classroom. *Journal of Evidence-Based Practices for Schools, 7,* 167-185.

Jones, K. M., Young, M. M., & Friman, P.C. (2000). Increasing peer praise of socially rejected delinquent youth: Effects on cooperation and acceptance. *School Psychology Quarterly, 15*, 30-39.

Kazdin, A. E. (1982). *Single-case research designs: Methods for clinical and applied settings.* New York: Oxford.

Kelshaw-Levering, K., Sterling-Turner, H. E., Henry, J. R., & Skinner, C. H. (2000). Randomized interdependent group contingencies: Group reinforcement with a twist. *Psychology in the Schools, 37*, 523-533.

Lane, K. L. (1999). Young students at risk for antisocial behavior: The utility of academic and social skills interventions. *Journal of Emotional and Behavioral Disorders, 7,* 211-223.

Litow, L., & Pumroy, D. K. (1975). A brief review of classroom group-oriented contingencies. *Journal of Applied Behavior Analysis, 8,* 341-347.

Lohrmann, S., & Talerico, J. (2004). Anchor the boat: A classwide intervention to reduce problem behavior. *Journal of Positive Behavior Interventions, 6,* 113-120.

Maag, J. W. (2001). Rewarded by punishment: Reflections on the disuse of positive reinforcement in schools. *Exceptional Children, 67,* 173-186.

Mayer, G. R. (2002). Behavioral strategies to reduce school violence. *Child & Family Behavior Therapy, 24*, 83-100.

Mayer, G. R. (2001). Antisocial behavior: Its causes and prevention within our schools. *Education and Treatment of Children, 24*, 414-429.

McGee, C. S., Kauffman, J. M., & Nussen, J. L. (1977). Children as therapeutic change agents: Reinforcement intervention paradigms. *Review of Educational Research, 47*, 451-477.

Michaels, J. W. (1977). Classroom reward structures and academic performance. *Review of Educational Research*, *47*, 87-98.

Moroz, K. B. & Jones, K. M. (2002). The effects of positive peer reporting on children's social involvement. *School Psychology Review, 31*, 235-245.

Morrison, J. Q. & Jones, K.M. (2007). The effects of positive peer reporting as a class-wide positive behavioral support. *Journal of Behavioral Education, 16*, 111-124.

Murphy, K. A., Theodore, L. A., Aloiso, D., Alric-Edwards, J. M., & Hughes, T. L. (2007). Interdpendent group contingency and mystery motivators to reduce preschool disruptive behavior. *Psychology in the Schools, 44*, 53-63.

Noell, G. H., Witt, J. C, Gilbertson, D. N., Ranier, D. D., & Freeland, J. T. (1997). Increasing teacher intervention implementation in general education settings through consultation and performance feedback. *School Psychology Quarterly, 12,* 77-88.

Noell, G. H., Witt, J. C, Slider, N. J., Connell, J. E., Gatti, S. L., Williams, K. L., et al. (2005). Treatment implementation following behavioral consultation in schools: A comparison of three follow-up strategies. *School Psychology Review, 34,* 87-106.

O'Leary, K. D., Becker, W. C., Evans, M. B., & Saudargas, R. A. (1969). A token reinforcement program in a public school: A replication and systematic analysis. *Journal of Applied Behavior Analysis*, *2*, 3-13.

Skinner, C. H., Cashwell, T. H., & Skinner, A. L. (2000). Increasing tootling: The effects of a peer-monitored group contingency program on students' reports of peers' prosocial behaviors. *Psychology in the Schools, 37*, 263-270.

Skinner, C. H., Neddenriep, C. E., Robinson, S. L., Evrin, R., & Jones, K. (2002). Altering educational environments through positive peer reporting: prevention and remediation of social problems associated with behavioral disorders. *Psychology in the Schools, 39,* 191-202.

Sugai, G., Lewis-Palmer, T., & Hagan, S. (1998). Using functional assessments to develop behavior support plans. *Preventing School Failure*, *43*, 6–13.

Sugai, G., & Horner, R. (2002). The evolution of discipline practices: School-wide positive behavior supports. *Child & Family Behavior Therapy, 24*, 23-50.

Trzesniewski, K. H., Moffit, T. E., Caspi, A., Taylor, A., & Maughan, B. (2006). Revisiting the association between reading achievement and antisocial behavior: New evidence of an environmental explanation from a twin study. *Child Development, 77*, 72-88.

Witt, J. C., & Elliott, S. N. (1985). Acceptability of classroom intervention strategies. In T. R. Kratochwill (Ed), *Advances in school psychology* (Vol. 4, pp. 251–288). Mahwah, NJ: Erlbaum.

Witt, J. C., & Martens, B. K. (1983). Assessing the acceptability of behavioral interventions used in classrooms. *Psychology in the Schools*, 20, 510-517.

Witt, J. C., Noell, G. H., LaFleur, L. H., & Mortenson, B. P. (1997). Teacher use of interventions in general educational settings: Measurement and analysis of the independent variable. *Journal of Applied Behavioral Analysis*, *30*, 693-696.

Wright, J. (2002). *What is Praise?* Retrieved July 30, 2008, from http://www.interventioncentral.org/htmdocs/interventions/classroom/peerreport1.php

Wright, J. (2002). *Examples of Praise?* Retrieved September 28, 2008, from http://www.interventioncentral.org/htmdocs/interventions/classroom/peerreport2.php

APPENDIX A: OBSERVATION WORKSHEET

Start
Student_____Observer_____School_____Date_____

Observation Worksheet

Place an **O** in the box if the student was if the student is not engaging in off-task and/or disruptive behavior

- On-task: Student's eyes are directed toward the teacher, instructional materials (e.g., overhead), work materials, academic task, or towards a fellow student answering a teacher's instructional question. Any behavior that does not include being off-task or being disruptive. **During breaks or transitional periods**: on-task is any behavior that includes taking out academic materials or sitting in desk waiting for teacher's instruction without engaging in talking out behavior, aggressive interactions and/or property destruction.

  Breaks/Transitional periods: short periods of time when the teacher is not instructing the class or the student is not assigned independent seat work.

Place an **X** in the box if the student engaged in any of the disruptive behaviors listed below.

- Off-task: Student's eyes are diverted away from academic task, work material, teacher instruction, including any instructional material or fellow student answering a teacher's instructional question for more than 3 consecutive seconds, except for during breaks or transitional periods.
- Out of seat: Any time the student is not in an assigned area without teacher's permission. This includes walking around the room, standing, and/or student's lower body breaking contact with the chair without teacher's permission.
- Talking out: Verbal statements, such as calling out answers, talking, whispering to other student's and/or making noise without teacher's permission. This excludes when the teacher is asking the whole class an instructional question without calling a specific name.
- Aggressive interactions: Kicking, hitting, shoving, poking and/or projection of an object in the direction of another person.
- Property destruction: Ripping, throwing, banging objects, or any other inappropriate use of an object.

1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.
13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.
25.	26.	27.	28.	29.	30.	31.	32.	33.	34.	35.	36.
37.	38.	39.	40.	41.	42.	43.	44.	45.	46.	47.	48.
49.	50.	51.	52.	53.	54.	55.	56.	57.	58.	59.	60.
61.	62.	63.	64.	65.	66.	67.	68.	69.	70.	71.	72.
73.	74.	75.	76.	77.	78.	79.	80.	81.	82.	83.	84.
85.	86.	87.	88.	89.	90.						

APPENDIX B: PUBLIC POSITIVE PEER REPORTING TREATMENT INTEGRITY

PUBLIC POSITIVE PEER REPORTING

Morning

_____ 1. At the beginning of the day, post the red poster at the front of the classroom.

_____ 2. State to the class that today is “RED DAY”.

_____ 3. Remind the class that they will need to include “Who,” “What,” and “When” during PPR session.

Afternoon

_____ 4. Select three names out of the bag to be “Stars of the Day.”

_____ 5. Post the names of the “Stars of the Day” on the board.

_____ 6. At the end of the day, tell the class they have 10 minutes to report aloud any positive behavior they have seen from the “Stars of the Day”.

_____ 7. Remind the class that a good example of a praise report includes “Who” showed positive behavior, “What” behavior was seen, and “When” the behavior was seen.

_____ 8. Announce to the class that each “Star of the Day” must receive a praise report before any more tally marks can be placed on the board and counted toward the reward.

_____ 9. Set the timer for 10 minutes.

_____ 10. Call on students who have raised their hands to report praise.

_____ 11. Place a tally mark on the board for every correct praise report (this includes “Who,” “What,” “When”).

_____ 12. Count the tally marks aloud when the timer goes off.

_____ 13. Place a Red token in the Red Jar if the class reported 10 correct praise statements about the “Stars of the Day”.

_____ 14. Provide Praise for correct statements or corrective feedback for praise statements reported incorrectly.

Reward

_____ 15. Reward was delivered in exchange for the red token earned on the previous Red Day .

APPENDIX C: PRIVATE POSITIVE PEER REPORTING TREATMENT INTEGRITY

PRIVATE POSITIVE PEER REPORTING

Morning

_____ 1. At the beginning of the day, post the blue poster at the front of the classroom.

_____ 2. State to the class that today is "BLUE DAY".

_____ 3. Remind the class that they will need to write "Who," "What," and "When" on their index cards during PPR sessions.

Afternoon

_____ 4. Select three names out of the bag to be "Stars of the Day".

_____ 5. Place the names of the "Stars of the Day" on the board.

_____ 6. At the end of the day, pass out index cards to the class.

_____ 7. Tell the class that they will have 10 minutes to write about any positive behavior they have seen from the "Stars of the Day".

_____ 8. Remind the class that a good example of a written praise statement includes "Who" showed positive behavior, "What" behavior was seen, and "When" the behavior was seen.

_____ 9. Announce to the class that each "Star of the Day" must have a praise index card before any more tally marks can be written on the board and counted toward the reward.

_____ 10. Set the timer for 10 minutes.

_____ 11. Collect all index cards when the timer goes off.

_____ 12. Write a tally mark on the board for every praise statement written correctly (this includes both "Who," "What," and "When.").

_____ 13. Count the tally marks aloud.

_____ 14. Place a Blue token in the Blue Jar if the class wrote 10 correct praise statements on index cards about the "Stars of the Day".

_____ 15. Give the correctly written index cards to the "Stars of the Day".

_____ 16. Provide corrective feedback for praise statements reported incorrectly.

Reward

_____ 17. Reward was delivered in exchange for a red or blue token.

APPENDIX D: STUDENTS' DIRECT BEHAVIOR RATING SCALE

Teacher:_____ Date:_____

Students' Direct Behavior Rating Scale

Circle the number that best fits your answer to the questions below.

1. Today the students followed directions and stayed on-task for at least 90% of the time.

1	2	3	4	5	6	7
Not True			**Somewhat True**			**Very True**

2. Today the students interacted positively toward each other.

1	2	3	4	5	6	7
Not True			**Somewhat True**			**Very True**

APPENDIX E: CHILDREN'S INTERVENTION RATING PROFILE

Children's Intervention Rating Profile

Instructions: Place a check on the space that best fits how you feel about each sentence.

1. The RED DAY game used to deal with classroom behavior problems was fair.....

I Agree I Do Not Agree

_____ _____ _____ _____ _____ _____

2. The RED DAY game that was used to deal with classroom behavior problems may cause problems with my friends ……

I Agree I Do Not Agree

_____ _____ _____ _____ _____ _____

3. There are better ways to handle my classroom behavior problems than the RED DAY game……..

I Agree I Do Not Agree

_____ _____ _____ _____ _____ _____

4. The RED DAY game used by my teacher would be a good one to use with other children…….

I Agree I Do Not Agree

_____ _____ _____ _____ _____ _____

5. I like the RED DAY game used for classroom behavior problems.....

I Agree I Do Not Agree

_____ _____ _____ _____ _____ _____

6. I think that the RED DAY game used for classroom behavior problems would help me do better in school……

I Agree I Do Not Agree

_____ _____ _____ _____ _____ _____

APPENDIX F: INTERVENTION RATING PROFILE 15

Intervention Rating Profile – (IRP-15)

Please rate the intervention along the following dimensions. Please circle the number which best describes your agreement or disagreement with each statement.

	Strongly Disagree	***Disagree***	***Disagree Slightly***	***Slightly Agree***	***Agree***	***Strongly Agree***
1. This would be an acceptable intervention for a child's problem behavior.	1	2	3	4	5	6
2. Most teachers would find this intervention appropriate for behavior problems in addition to the one described.	1	2	3	4	5	6
3. This intervention should prove effective in changing a child's problem behavior.	1	2	3	4	5	6
4. I would suggest this intervention to other teachers.	1	2	3	4	5	6
5. The child's behavior is severe enough to warrant use of this intervention.	1	2	3	4	5	6
6. Most teachers would find this intervention suitable for behavior problem described.	1	2	3	4	5	6
7. I would be willing to use this intervention in the classroom setting.	1	2	3	4	5	6
8. This intervention would *not* result in negative side-effects for the child.	1	2	3	4	5	6
9. This intervention would be appropriate for a variety of children.	1	2	3	4	5	6
10. This intervention is consistent with those I have used in classroom settings.	1	2	3	4	5	6
11. The intervention was a fair way to handle the child's problem behavior.	1	2	3	4	5	6
12. This intervention is reasonable for the problem behavior described.	1	2	3	4	5	6
13. I liked the procedures used in this intervention.	1	2	3	4	5	6
14. This intervention is a good way to handle this child's behavior.	1	2	3	4	5	6
15. Overall, this intervention would be beneficial for a child.	1	2	3	4	5	6

VITA

Carolyn Barahona was born in 1982, in Toledo, Ohio. Carolyn graduated from St. Amant High School in 2000. After graduation, Carolyn attended Louisiana State University and graduated with a Bachelor of Science degree in psychology with a minor in sociology in 2004. Upon graduation, she spent two years working under Dr. George Noell as an Applied Behavior Analysis therapist at an early intervention program for children with autism. In 2007, Carolyn was accepted at Louisiana State University's school psychology doctoral program under the supervision and guidance of Dr. George Noell. She is currently a third year graduate student in the doctoral program and is a supervisor for an early intervention program for children with autism. Carolyn will continue on to pursue her doctoral degree at the Louisiana State University.