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## **Evaluating the Use of Tootling for Improving Upper Elementary/ Middle School Students' Disruptive and Appropriate Behavior**

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The University of Southern Mississippi

EVALUATING THE USE OF TOOTLING FOR IMPROVING UPPER  
ELEMENTARY/MIDDLE SCHOOL STUDENTS' DISRUPTIVE  
AND APPROPRIATE BEHAVIOR

by

Abigail Melanie Lambert

Abstract of a Dissertation  
Submitted to the Graduate School  
of The University of Southern Mississippi  
in Partial Fulfillment of the Requirements  
for the Degree of Doctor of Philosophy

August 2014

## ABSTRACT

# EVALUATING THE USE OF TOOTLING FOR IMPROVING UPPER ELEMENTARY/MIDDLE SCHOOL STUDENTS' DISRUPTIVE AND APPROPRIATE BEHAVIOR

by Abigail Melanie Lambert

August 2014

The purpose of the current study was to extend the literature on a positive peer reporting procedure called Tootling. There has been limited research on the effectiveness of the Tootling intervention for reducing disruptive behavior in the classroom (Cihak, Kirk, & Boon, 2009; Lambert, 2012). Additionally, Tootling has primarily been utilized with lower elementary school students, and the present study evaluated the intervention procedures with upper elementary/middle school students (i.e., sixth and seventh grades). The current study also examined the effects of the Tootling intervention on individual target students referred for disruptive behavior in addition to classwide student behavior. An ABAB design across three classrooms was used to evaluate the efficacy of Tootling. Dependent variables consisted of disruptive as well as appropriate student behavior both classwide and for target students and were measured using a 10 second momentary time sampling procedure. Additionally, Tootling included an interdependent group contingency and posted feedback towards the class goal. Overall, increases in appropriate behavior and decreases in disruptive behavior were observed both at the classwide and individual student levels. Considerations for future research as well as limitations and implications for practice are discussed.

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A Dissertation  
Submitted to the Graduate School  
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## CHAPTER I

### INTRODUCTION

It is becoming increasingly important that teachers maximize time spent on academic instruction. Provisions from government legislations such as the No Child Left Behind Act and the Individual's With Disabilities Education Improvement Act of 2004 have created increased pressure on teachers for student performance in the classroom (George, White, & Schlaffer, 2007). Accountability is high, and teachers are liable for each minute of instruction; therefore, it is imperative that effective solutions are discovered in order to decrease the obstacles to learning that are created by disruptive student behavior. A survey conducted by the National Center for Education Statistics (2008) reported that 36% of public school teachers felt that student misbehavior interfered with teaching. Disruptive behavior in the classroom limits the time that teachers are able to spend on student learning and preparation for important end of the year testing.

In addition to decreasing disruptive student behavior as a means of improving academic performance, there is also an emphasis on creating and promoting more positive school environments by increasing appropriate behaviors. School-Wide Positive Behavior Interventions and Supports (SWPBIS) is a system-wide approach to preventing problem behavior and improving academic and prosocial behavior in schools (Sugai & Horner, 2000). SWPBIS provides students with a more structured environment and clearly stated rules and expectations, in addition to increasing positive attention and reinforcement for appropriate behaviors (Horner et al., 2004). SWPBIS utilizes the Response to Intervention (RtI), three-tier approach to intervention in which primary

interventions, Tier I, are preventative measures available to all students and teachers across all school settings; secondary interventions, Tier II, are more targeted for particular deficits, and include small group intervention or instruction, and/or tutoring; and tertiary interventions, Tier III, are specific and individualized for those students who are at high risk for academic or behavioral difficulties and have not responded to Tier I and II supports (George et al., 2007).

A defining feature of SWPBIS is that children are acknowledged for engaging in expected and desired behaviors which are clearly defined and taught; however, teachers may find it difficult to attend to all instances of appropriate behaviors exhibited by students (Skinner, Neddneriep, Robinson, Ervin, & Jones, 2002). This can be especially true at the secondary level of education. As students enter upper elementary and middle school, they receive substantially less supervision, positive reinforcement, and support from teachers with regards to both academics and behavior (Rusby, Crowley, Sprague, & Biglan, 2011). Student-to-staff ratios become increasingly more disproportionate, and instructional demands are higher, which can impact the resources that teachers have available to allocate to behavior management.

Possible intervention options that do not require additional teacher time include peer-based interventions. Researchers have demonstrated that students can successfully serve as academic peer tutors (Dufrene, Noell, Gilbertson, & Duhon, 2005; DuPaul, Ervin, Hook, & McGoey, 1998; Menesses & Gresham, 2009) as well as peer behavior monitors (Carden-Smith & Fowler, 1984; Goldstein, Kaczmarek, Pennington, & Shafer, 1992; Stern, Fowler, & Kohler, 1988). Peer-monitoring interventions take advantage of observational learning principles as students may learn appropriate behaviors through

observing peers who are reinforced for engaging in appropriate behaviors and then imitating those behaviors (Bandura, Ross, & Ross, 1963; Bandura, 1965). Utilizing peer monitors as intervention agents is potentially a time and resource efficient approach that allows for teachers to spend less time on classroom behavior management and more time on instruction.

Unfortunately, there is currently limited research investigating effective behavior management strategies for children in the middle school environment. It is important that a variety of intervention strategies be examined so that children at this level may benefit from evidence-based interventions to improve social and academic outcomes (Rusby et al., 2011). In particular, classwide interventions within the framework of SWPBIS need to be explored as possible options for managing student behavior at various grade levels which require minimal amounts of teacher time and resources. A promising intervention option known as Tootling has emerged which not only aligns with the SWPBIS structure of acknowledging and promoting appropriate student behavior but also utilizes peers as intervention agents to assist teachers with behavior management.

### Tootling

Tootling is a procedure that encourages students to monitor and record each other's instances of prosocial, appropriate behaviors on index cards. The completed cards are then collected in a container throughout the day or class period, and the teacher reads them aloud to give public recognition and praise to those students engaging in appropriate behavior. Research from Skinner, Cashwell, and Skinner (2000) and Cashwell, Skinner, and Smith (2001) suggested that combining Tootling with the use of

an interdependent group contingency to reinforce students for obtaining a certain number of tootles seems to be an important component for the success of the Tootling procedures.

The addition of the group contingency serves to encourage and acknowledge students for working together toward earning a group reinforcer by reporting the appropriate behaviors of peers. Skinner, Neddenriep et al. (2002) suggested that an additional benefit of utilizing a group contingency is that because students' access to reinforcement is influenced by the performance of their peers, students may not only model appropriate behaviors but may also use social influence to promote appropriate behaviors by their peers. Moreover, it is also considered to be a feasible intervention with regards to teacher time and resources as the students are the ones monitoring behavior, and all students work towards a single, group reinforcer so that teachers need only manage a single contingency for collective student performance (Popkin & Skinner, 2003; Skinner, Skinner, & Sterling-Turner, 2002).

Skinner et al. (2000) was the first study to evaluate these procedures using Tootling with publicly posted feedback and an interdependent group contingency. Participants included one classroom instructor and 28 students in a general education, fourth-grade classroom. The intervention was evaluated with the use of an ABAB withdrawal design to determine the effectiveness of the interdependent group contingency for increasing the number of written tootles compared to baseline and withdrawal phases.

Before beginning any experimental procedures, students were trained on what constituted a tootle and how to record it appropriately on note cards. During baseline, each student had an index card taped to their desk and was told that if they saw any of

their peers engaging in prosocial behaviors, they were to write it on the card. The students were not provided with reinforcers for their written tootles during this phase. The treatment phase was then implemented, which included the use of an interdependent group contingency for number of tootles produced and publicly posted feedback toward the class goal of 100 tootles. Students were shown a poster marking their progress toward their goal and informed that if they met their class goal, they would receive 30 minutes of extra recess time. Upon meeting the goal, the students received the reward, the next goal was increased, and a new reward was chosen. The intervention was then withdrawn and reimplemented. Once the students met their third goal, the study was concluded.

Data obtained from the Skinner et al. (2000) study were variable during baseline as well as the intervention phases, thereby making it difficult to determine any clear treatment effects. It was noted, however, that the students' first reward was access to extra recess, and during that time, the school principal put a school-wide punishment in place consisting of restricted access to recess for classrooms not returning books. The authors hypothesized that the students' reporting of tootles may have been affected by the fear that they would not be able to earn their reward; thus, this may have limited the internal validity of the study. The researchers then reassured the students that they would be able to earn their reward for tootling, and the students' number of tootles increased. When the intervention was withdrawn, the students' tootling levels decreased to near zero and then increased again during the implementation of the final intervention phase. The tootling levels during this phase increased above the previous intervention phase, but remained highly variable. Despite the confound of the principal-imposed punishment

procedure at the beginning of the study, the overall results of the Skinner et al. (2000) study provided tentative evidence that tootling procedures in combination with an interdependent group contingency can result in increases in students' reporting of peers' appropriate behaviors.

Cashwell et al. (2001) replicated and extended the study conducted by Skinner et al. (2000) using second-grade students. Participants consisted of the classroom teacher and 17 students. The study utilized an ABAB withdrawal design with an interdependent group contingency and publicly posted feedback towards a group goal. Similar procedures to Skinner et al. (2000) were used in this study including a group instruction training for students on how to correctly report their peers' prosocial behaviors on an index card and turn them in. In addition, as in the previous study, the dependent variable measured was the number of tootles produced by the students. During baseline, students were instructed to tootle, but no rewards or feedback were provided. Students were then informed of the group contingency procedures and given a predetermined goal to meet in order to obtain a group reinforcer (i.e., extra play time), and the initial treatment phase was implemented. Following the initial treatment phase, the intervention was withdrawn and reimplemented using a new group criterion and reinforcer for producing tootles.

The authors reported the results of visual analysis, which showed that tootling levels were initially high during baseline but decreased for the remainder of the phase. Tootling levels increased considerably upon implementation of the group contingency; however, results were still variable. Upon withdrawing the intervention, student tootling levels decreased to near zero. Once the intervention was reimplemented, the number of tootles increased but remained variable. The authors offered an explanation for the

variability present during intervention phases that the children may not have had the same number of opportunities each day to engage in and report prosocial behaviors. Despite variability, the results supported the use of tootling in combination with an interdependent group contingency and publicly posted feedback as an intervention to increase students' tootling behaviors.

Initial studies on tootling focused on the use of an interdependent group contingency procedure to increase the reports of prosocial behaviors produced by students (Cashwell et al., 2001; Skinner et al., 2000). As a result, both of these earlier Tootling studies were limited in that there was no evidence that tootling had any effect on the students' behavior in the classroom; therefore, further research was warranted to determine whether tootling could have direct effects on student behavior, rather than just on the number of tootles produced.

A study by Cihak et al. (2009) sought to determine the effects of the Tootling procedures on the disruptive behaviors of children in the classroom setting to address this question. Participants included 19 students in a third-grade special education inclusion classroom. Of the 19 students, four were receiving special education services. The researchers utilized an ABAB withdrawal design along with an interdependent group contingency to evaluate the effects of the intervention on the disruptive behaviors exhibited by the students. Data collection procedures were performed by the classroom teacher and consisted of the teacher wearing a paper bracelet containing every students' initials. As the teacher observed disruptive behaviors, she would make a mark next to that student's initials, and data were collapsed to create an overall classroom frequency of disruptive behavior. Two student tootling training sessions were conducted by the

classroom teacher following baseline and prior to implementation of the tootling procedures. During the Tootling intervention, students received index cards each day to record tootles, which were read aloud at the end of the day by the classroom teacher. Tootles were collected towards an overall class goal of 75 tootles to receive a group reinforcer. Once the frequency of classwide disruptive behaviors was decreased by 50% for three successive days, the intervention was removed and then reintroduced.

The mean frequency of disruptive behavior was 23.2 during baseline, and decreased to a mean of 8.4 upon implementation of the Tootling procedures. During the withdrawal phase, classwide disruptive behaviors increased to a mean of 16. Once the intervention was reintroduced for the second intervention phase, levels of disruptive student behavior decreased to a mean of 3.5 which was well below the previous phases. Given that data were collected by the classroom teacher and subject to observer bias, IOA data were collected by an objective, trained observer for 30% of school days. IOA ranged between 86% and 100% across all phases. Additionally, Cihak et al. (2009) contributed to the literature and further supported the results of the study by collecting procedural integrity data for implementation by the classroom teacher which was 99% across treatment phases. The results of this study suggest that Tootling is an effective intervention for reducing classwide disruptive behavior; however, the authors proposed that results could not be separated from the group contingency and that more research was needed to determine if Tootling alone was enough to decrease disruptive behaviors.

A study by Sherman (2012) also evaluated the use of Tootling on disruptive behavior. The procedures used were a variation of those used in the original Tootling studies in that this study evaluated the use of Positive Peer Reporting (PPR) in

combination with Tootling procedures to determine the effects on disruptive student behavior. PPR encourages students to publicly report the positive behaviors of a particular peer chosen as the *star* student. This study examined the differential effectiveness of PPR alone and PPR in combination with tootling elements, which allowed students to report the star student's behaviors via index cards to be read aloud by the teacher instead of by verbal statements of the students. Four general education students ranging from grades three through six were included in the study due to referrals for high levels of disruptive behavior. The primary investigator arranged the students into two dyads and then used a multiple baseline design to examine effects across participants in each dyad. The intervention phases consisted of PPR alone and PPR with Tootling, and the sequence of intervention phases was counterbalanced across pairs of participants to control for order effects.

During the PPR alone phase, each day a student was designated as the star of the class, and the target students were strategically chosen more frequently. Students were told to monitor the star student's behavior throughout the day and be prepared to make praise statements about that student at the end of the day in order to obtain tokens to be accumulated towards a class reward. During the PPR with Tootling phase, students were still told to report the star student's behavior; however, they did so privately on index cards rather than giving verbal reports. The students earned tokens toward a reinforcer for each praise statement written on the index cards. Data were collected for each student at the times reported to have high levels of disruptive behavior as well as during a different time/activity to examine whether the effects of the intervention generalized to other settings.

Dependent variables included both disruptive behavior and appropriate behavior by the target students. For Dyad 1, decreases in disruptive behavior and increases in appropriate behavior occurred across students following the introduction of PPR. Upon introduction of PPR with Tootling procedures, obtained results were maintained and consistent with the PPR alone phase. Results for Dyad 2 were comparable to Dyad 1 as decreases in disruptive behavior and increases in appropriate behavior were visible during the PPR with Tootling phase, and behavior remained at desired levels during the PPR alone phase. Overall, the results of the study indicated that PPR and PPR with Tootling were equally effective at improving the disruptive and appropriate behaviors of the referred students. In addition, generalization data also showed increases in appropriate behavior and decreases in disruptive behavior that were consistent with intervention settings.

Several limitations of the study were indicated by the author. First, generalization data were limited due to data being collected only once per week. Second, two of the teachers indicated that they were having trouble managing the students' use of the index cards required for the PPR with Tootling intervention. Additionally, the star students were only allowed to receive six praise statements per day, which the author suggested may have prevented further improvements in behavior than were observed. It was also noted that data on peer interactions were collected via an indirect rating scale rather than with direct observation. It is important to note that the Sherman (2012) study utilized a variation of the original Tootling procedures as it was combined with elements of PPR to focus on individual student behavior instead of the class as a whole.

Lambert (2012) conducted a study utilizing the original Tootling procedures (Cashwell et al., 2001; Cihak et al., 2009; Skinner et al., 2000) to evaluate the effectiveness of the intervention on classwide student behaviors. An ABAB withdrawal design with a multiple baseline element across two general education classrooms was used, and Tootling included an interdependent group contingency as well as publicly posted feedback. Participants included one fourth-grade teacher and 17 students and one fifth-grade teacher and 19 students. In contrast to the Cihak et al. (2009) study, observation data were collected on appropriate as well as disruptive student behavior by the primary investigator and trained observers. Students were trained prior to the introduction of the intervention by the classroom teacher. During the initial intervention phase, the students were given index cards to record instances of peers' appropriate classroom behaviors. Additionally, students worked toward a collective class goal of tootles to gain access to a chosen reinforcer, and progress was posted using a whiteboard located in the front of the classroom. The intervention was then withdrawn and reimplemented in each classroom.

The results of the Lambert (2012) study demonstrated that the Tootling intervention was effective for reducing classwide disruptive behavior while simultaneously improving classwide appropriate behavior. In the fourth-grade classroom, baseline levels of disruptive behavior had a mean of 26.6% of intervals observed and decreased to a mean of 14.2% of intervals after implementation of the Tootling intervention. Following withdrawal, mean levels of disruptive behavior increased to 29.8% of intervals, then decreased to a mean of 9.4% of intervals during re-implementation of Tootling, and remained low with a mean of 8.7% of intervals during

follow-up. Mean level of appropriate behavior during baseline was 58.2% of intervals, 75.2% of intervals during the first Tootling phase, 53.2% of intervals during withdrawal, 79.9% of intervals during the second Tootling phase, and 84.7% of intervals during follow-up observations.

Results from the fifth-grade classroom yielded a disruptive behavior mean of 27.3% of intervals during baseline, which then decreased to a mean of 7.4% of intervals during the initial Tootling phase, then increased to a mean of 17.3% of intervals during the withdrawal phase, then decreased again to a mean of 7.1% of intervals upon reintroduction of the Tootling procedures, and finally decreased even further to a mean of 6.5% of intervals during the follow-up. Levels of appropriate student behavior averaged 59.3% of intervals during baseline, increased to a mean of 83.2% of intervals when Tootling was implemented, decreased to a mean of 70.5% of intervals when the intervention was withdrawn, increased again to a mean of 82.9% of intervals observed during re-implementation of Tootling, and averaged 79.5% during the follow-up. IOA data were collected for at least 30% of observations across phases and classrooms and ranged from 79% to 99% between raters. In addition, treatment integrity data ranged from 75% to 100% of steps completed by the classroom teachers, treatment integrity IOA was 100% across raters, and acceptability as measured by the *Intervention Rating Profile-15 (IRP-15)*; Martens, Witt, Elliot, & Darveaux, 1985) was rated high by both classroom teachers with scores of 85 and 90.

One of the limitations noted in the Lambert (2012) study was the need for additional replications utilizing direct observation of student behavior. Other limitations reported were that treatment integrity fell to 75% of steps completed for one of the

classrooms, and student acceptability was not measured. Future research directions suggested by the author included determining the effects of Tootling on individual student behavior as student data were collapsed across students and evaluating the effects of Tootling on student behavior with different age groups.

#### Purpose of the Present Study

Up to this point, Tootling studies have been limited to lower elementary school students, and the effects of the intervention on student behavior are unknown for older children. In particular, as students transition into secondary grade levels, the potential for problem behaviors is likely to increase due to the increased academic and social demands that students encounter. During this time, students are experiencing more independence and are now spending a majority of time with peers that have become major sources of support and influence (Wang & Dishion, 2011; Way & Greene, 2006). Thus, it is crucial that supports are in place in the classroom for students at higher grade levels which capitalize on peer influence to encourage prosocial and appropriate classroom behavior. The current study evaluated the use of the Tootling procedures on upper elementary and middle school students (i.e., sixth- and seventh-grade) for decreasing disruptive behaviors and increasing appropriate behaviors in the classroom.

In addition, the Cihak et al. (2009) and Lambert (2012) studies demonstrated that Tootling has beneficial effects on student behavior for an entire class of students; however, it was unclear whether Tootling has similar effects on individual student behavior as data were combined to obtain overall classroom behavior in both studies. Although the Sherman (2012) study utilized elements of Tootling to determine the effects of the intervention on target students, Tootling was modified from its original procedures

and combined with PPR procedures; therefore, additional research is needed to replicate findings from previous Tootling studies at the classwide level as well as examine the effects of the Tootling intervention on individual students exhibiting higher levels of disruptive behavior than peers.

The following research questions were evaluated in the current study:

1. Will Tootling decrease classwide disruptive behaviors in upper elementary and middle school children?
2. Will Tootling decrease target students' disruptive behaviors in the classroom?
3. Will Tootling increase classwide appropriate behaviors in upper elementary and middle school children?
4. Will Tootling increase target students' appropriate behaviors in the classroom?
5. Will Tootling be rated as acceptable by both classroom teachers and target students?

## CHAPTER II

### METHOD

#### Participants and Setting

Three upper elementary/middle school classrooms (i.e., two sixth-grade classrooms and one seventh-grade classroom) were selected for participation in this study based on administrator and teacher referral as well as meeting pre-specified screen-in criteria. Classroom A was a sixth-grade, general education, inclusion classroom containing 28 students (20 females, eight males), four of whom were receiving special education services under the disability category of Specific Learning Disability. The class was comprised of five Caucasian students, three Hispanic students, and 20 African American students. The classroom teacher was an African American female with a Bachelor's degree in her third year of teaching. The target student, Student A, was an 11-year-old, African American female in general education.

Classroom B was a sixth-grade, general education classroom containing 28 students (15 males, 13 females). Participants consisted of 26 African American students and two Hispanic students. The classroom teacher was an African American female with a Master of Arts degree and in her third year of teaching. The target student, Student B, was a 12-year-old, African American female in general education.

At the time the study was conducted, the school for Classrooms A and B was participating in a SWPBIS program that had been in place prior to the start of the study. According to results obtained from the most recent School-wide Evaluation Tool (SET), the school earned a rating of 93% implementation of SWPBIS procedures for the 2012-2013 school year. The SET is an objective measure of procedural integrity to determine

the extent to which Tier I supports are being implemented. A school scoring 80% or above for the Total SET score is considered to be implementing SWPBIS procedures with fidelity (Horner et al, 2004; Horner et al., 2009).

Classroom C was a seventh-grade, general education classroom consisting of 19 students (11 females, eight males). Participants included 15 African American students, two Hispanic students, and two Caucasian students. The classroom teacher was an African American female with a Master of Arts degree and in her ninth year of teaching. The target student, Student C, was a 13-year-old, African American male in general education. Classroom C was also part of a school in which a SWPBIS system was in place prior to the start of the study, and the most recent SET score for the 2012-2013 school year was 83.9% implementation.

Teachers were contacted regarding participation in the study and to determine target behaviors and appropriate times for observation. In addition, teachers in each classroom were asked to nominate one target student who demonstrated higher levels of disruptive behavior than his or her peers. Following the teacher interview, a screening observation was conducted by the primary investigator to determine if disruptive behavior levels met criteria for participation in the study. In order to qualify, both the classwide disruptive behavior and the individual target student's behavior had to be at or above 30% of intervals observed during a 20-minute observation (Lambert, 2012).

Permission to conduct the study was first obtained from appropriate school and school district personnel. Informed consent was then obtained from each of the participating teachers (see Appendix A) as well as from the parents of each of the chosen target students (see Appendix B). Teachers were also asked to complete a form

indicating both teacher and class demographic information (see Appendix C). For all three classrooms participating in the study, all data collection and intervention procedures occurred in the regular classroom setting. Because identifying information was not collected, and target students did not receive any additional intervention beyond the Tootling procedures, which were presented to the entire class as part of a general classroom management strategy, child assent was not obtained for the target students. All procedures and materials were submitted and approved by the university Institutional Review Board (IRB; see Appendix D).

#### Materials and Measures

Classroom teachers were provided with all materials needed for the intervention, which included 4 x 6 index cards to distribute to the students in order for them to write down tootles regarding peers' appropriate behaviors, a small plastic container the size of a shoe box designated for students to place their tootles in once they were completed, and a dry erase poster board which was displayed in the front of the classroom in order to show progress toward the collective class goal. The primary investigator also provided the teacher with specific scripts for both the student training session on Tootling (see Appendix E ) as well as a daily Tootling procedures script (see Appendix F). Materials provided to the teacher also included any reinforcers chosen by the classroom teacher and students for meeting specified goals. Reinforcers for meeting goals consisted of primarily edible items (e.g., chips, ice cream sandwiches, donuts) but also included activities (e.g., game day and extra recess time).

### *Intervention Rating Profile-15*

Teachers participating in this study completed a modified form of the *Intervention Rating Profile-15 (IRP-15)*; see Appendix G ) developed by Martens et al. (1985) at the completion of the study. The *IRP-15* is designed as a single factor measure used to determine the general acceptability of a particular intervention by having teachers rate 15 statements regarding intervention acceptability from 1 (strongly disagree) to 6 (strongly agree). Interventions that yield ratings above the cutoff score of 52.50 are considered *acceptable*. The *IRP-15* is reported to have high internal consistency with a Chronbach's alpha of .98 (Martens et al., 1985). Research has indicated that making minor modifications to the tense and wording of items on the *IRP-15* does not alter the reported psychometric properties of the instrument (Freer & Watson, 1999). Modifications to the *IRP-15* for the purpose of this study included past tense wording and substituting the word *intervention* with *Tootling*.

### *Children's Intervention Rating Profile (CIRP)*

A modified version of the *Children's Intervention Rating Profile (CIRP)*; Witt & Elliott, 1985) was used to assess target students' acceptability of the Tootling intervention (see Appendix H). The *CIRP* is a seven-item questionnaire that requires students to rate their satisfaction with the intervention on a 6-point Likert scale, with higher ratings indicating higher intervention acceptability. The *CIRP* is reported to have a Chronbach's alpha of .89, which indicates high internal consistency within items (Witt & Elliot, 1985). Modifications were made to the original *CIRP* because several items are worded such that they require reverse scoring; therefore, the wording on those particular items was altered so that all items reflected the same positive tone and could be rated and

scored in a consistent manner. Currently, it is unknown whether making modifications to the wording of the *CIRP* would alter the psychometric properties; however, the original version of the instrument is written similarly to the *IRP-15* in that they are in a generic form that may require modifications to item wording in order to fit individual interventions being rated (e.g., changing *the method used* to *Tootling*); therefore, psychometric properties may not be affected when item wording is altered.

#### Dependent Measures

The primary investigator consulted with all classroom teachers prior to data collection in order to determine specific behavior concerns to be observed. The same definitions were used for both classwide and target student behavior as none of the teachers indicated any specific behaviors not already contained in the definitions for the entire class. Disruptive student behavior was the primary dependent variable assessed in this study and was used to determine phase changes across all classrooms. Disruptive behaviors were defined as, “out of seat without permission, defined as no part of the student’s legs or buttocks in contact with a seat, including standing or walking around without permission; inappropriate vocalizations, defined as the student making any vocal, audible noise unrelated to the task at hand such as talking, yelling, singing, or humming; or engaging in any physical, motor movements unrelated to the task at hand such as manipulating objects or materials, throwing objects, or tapping fingers or objects on a desk” (Lambert, 2012, p. 17).

Appropriate student behavior was also collected as a second dependent measure. Appropriate behaviors were defined as, “the student being actively involved or attending to (e.g. looking at) independent seatwork, teacher instruction, designated classroom

activities, and/or engaging in task related vocalizations with teachers and/or peers” (Lambert, 2012, p. 18).

### Data Collection

Data were collected by the primary investigator and trained observers at least three times per week during the same class period in which the teacher reported the most disruptive behavior. Data collection procedures were the same during the screening, baseline, and treatment observations. All observations were conducted during the same class period and at approximately the same time for each observation (i.e., Classroom A was a first period mathematics class, Classroom B was a first period language arts class, and Classroom C was a seventh period world history class). A 10 second momentary time sampling recording procedure was used to measure the dependent variables across a 20 minute observation, and observers were cued to observe at the beginning of each 10-second interval using an audio recording. Data were reported as percentage of intervals of occurrence and were calculated by dividing the total number of intervals of occurrence by the total number of intervals in the observation and multiplying by 100. Percentage of disruptive and appropriate behaviors was calculated and reported separately.

Before beginning each observation, the primary investigator divided the class into groups (e.g., by rows, tables). Each student was designated with a number for that group (i.e., 1, 2, 3) with the exception of the specific target student in each classroom. Observations began by observing the target student during the first interval, and every third interval that followed, the observer returned to the target student. All other students in the classroom were systematically observed between target student intervals. Each day

the researcher randomly selected which student (e.g., Student 1, Student 2, Student 3) would begin the observation (see Appendix I).

For example, an observation that was selected to begin with Student 1 in Group 1 followed such that the target student was observed in the first interval, then Student 1 in Group 1 was observed, followed by Student 1 in Group 2, and then the observer returned to the target student. Then, the observer moved to Student 1 in Group 3, then Student 2 in Group 1, then back to the target student, and so on until all students in the classroom had been observed at which point the process was repeated until the end of the observation.

Each student from each group was momentarily observed at the beginning of each 10 second interval. Data for each 20 minute observation were combined across non-target students to obtain an estimate of the overall percentage of intervals of classroom disruptive and appropriate behaviors. Percentage of intervals of classwide disruptive behavior was calculated by dividing the number of intervals of occurrence across non-target students by the total number of non-target student intervals and multiplying by 100. For the target student in each classroom, the sum of intervals of disruptive behavior was divided by the total number of intervals he or she was observed and multiplied by 100. Data for appropriate classwide and target student behaviors was calculated using the same procedures.

### Experimental Design

An A/B/A/B withdrawal design across 3 classrooms was used to determine the effectiveness of the Tootling intervention for decreasing classwide and target student disruptive behaviors as well as increasing appropriate behaviors. Phase changes were

made based on each classroom's disruptive behavior data and were based on visual analysis of level, trend, and variability.

## Procedures

### *Screening*

Each classroom and each target student within each classroom underwent a screening observation in order to qualify for participation. Participating classrooms and target students were required to meet a criterion of approximately 30% of observed intervals of classwide disruptive behavior (Lambert, 2012). This criterion was selected because potential observed effects from the intervention would still be visible below 30%, thus allowing for the prevention of floor effects. Also, 30% classwide disruptive behavior levels may be high enough to potentially distract students and teachers from instruction. Screen-in data were collected using the same procedures as in baseline and intervention procedures described previously. Disruptive behavior during the screening observation for Classroom A was 31% of intervals observed and 53% of intervals observed for Student A. For Classroom B, disruptive behavior was 35% of intervals observed and 55% of intervals for Student B. Disruptive behavior for Classroom C and Student C was 30% and 55% percent of intervals, respectively.

### *Baseline*

The primary investigator and trained observers collected baseline data for disruptive and appropriate student behavior prior to the initiation of the training or Tootling procedures. Teachers were instructed to continue their normal classroom routines and behavior management techniques during this time.

### *Training*

Each classroom teacher was provided with a script which outlined specifically how to train the students on the Tootling procedures (see Appendix E). The student trainings occurred immediately following the conclusion of the baseline phase and prior to the implementation of the Tootling intervention. The training was designed to train students on how to observe and record their peers' appropriate behaviors during class time. The script instructed the classroom teacher to provide examples and non-examples of appropriate tootles. Additionally, students were given the opportunity to write a practice tootle on an index card, and the teacher provided praise and/or feedback. Student trainings continued until each student wrote one correct tootle as determined by the classroom teacher.

### *Stimulus Preference Assessment*

Appropriate reinforcers were chosen in collaboration with the classroom teacher and students. Across all classrooms, the teachers allowed students to verbally identify several preferred reward options each time a new goal was established. The teacher then conducted a majority vote for which reward the students would receive upon meeting the next goal. If multiple items/activities had the same number of votes, the teacher would re-present only those options to the class to vote again until a majority was reached for one reward. The primary investigator provided all reward items that were not typically available in the classroom (e.g., ice cream sandwiches, donuts).

### *Tootling*

After baseline stability and/or an increasing trend in classwide disruptive behavior was observed in each classroom, the implementation of training procedures and Tootling

procedures began. As in previous Tootling studies, the Tootling procedures included public posting and an interdependent group contingency procedure in which a specific goal must be achieved by the whole class in order to obtain a predetermined group reinforcer (Skinner et al., 2000). At the beginning of the class period each day, teachers distributed an index card to each student and instructed and encouraged them to record any appropriate peer behavior observed throughout the period. Students were reminded that they should write one tootle on the front of the index card and one tootle on the back of the index card before placing it in the tootle collection box and receiving a new card.

At the end of the period each day, the classroom teacher randomly chose several of the students' tootles and read them aloud giving additional acknowledgment to the students for their appropriate behaviors listed on the tootles. The teacher then added the tootles from that day to any previous tootles the class has accumulated thus far and marked the students' progress toward the cumulative goal. Upon reaching the specified goal, the class received the agreed upon reinforcer, and a new goal was introduced.

Across all classrooms, the initial goal was set at 60 tootles. The initial goal was set somewhat low to allow students to gain access to the reward contingency more rapidly so as to increase motivation to engage in writing tootles. Once the students met their initial goals, the primary investigator consulted with the classroom teacher and made increases to the goals depending on length of time to meet the initial goal, number of students in the class, and length of the class period. For example, if the class met their goal within 2 days, the goal was set slightly higher than if the class took 5 or more days to reach it. For Classroom A the second goal was set at 90 tootles, and all subsequent goals were set at 100 tootles. For Classroom B, the second goal was set at 75 tootles, and

all remaining goals were set at 90 tootles. For Classroom C, the second goal remained at 60 tootles, and all remaining goals were set at 75 tootles. The length of time it took the class to reach the Tootling goal and receive the reward varied across classrooms but typically ranged from three days to one week.

#### Interobserver Agreement

Interobserver agreement (IOA) was measured between the primary investigator and a trained observer for a minimum of 25% (range = 25%-50%) of observations across all phases in each of the three classrooms. IOA was calculated separately for disruptive and appropriate behaviors and reported as total agreement of occurrence and nonoccurrence of behavior. The total number of agreements was divided by the total number of agreements and disagreements and then multiplied by 100.

Observers were trained by having the observation procedures explained to them as well as being given behavioral definitions of the target behaviors. Observers were trained in the classroom until they obtained at least 80% IOA with the primary investigator before being allowed to independently conduct observations. During data collection, observers were required to maintain at least 80% agreement when simultaneously and independently collecting data with the primary investigator or another trained observer.

For Classroom A, IOA was conducted for 40% of Baseline sessions, 40% of sessions in the initial Tootling phase, 50% of Withdrawal observations, and 43% of observations during the re-implementation of tootling phase. IOA for disruptive behavior in Classroom A averaged 92.45% (range = 84%-97%) across all phases, appropriate behavior averaged 92.27% (range = 81%-97%) across all phases, and total IOA for both

disruptive and appropriate student behavior averaged 91.% (range = 81%-97%) across all phases. Disruptive behavior IOA for Student A averaged 90.45% (range = 80%-95%) across all phases, appropriate behavior IOA averaged 90.18% (range = 80%-100%) across all phases, and total IOA for both disruptive and appropriate behavior for Student A averaged 90% (range = 80%-100% ).

IOA for Classroom B was obtained for 40% of observations in Baseline, 40% of observations in the initial Tootling phase, 33% of observations in the Withdrawal phase, and 40% of observations during the re-introduction of Tootling. IOA for disruptive behavior in Classroom B averaged 88.63% (range = 83%-98%) across all phases, appropriate behavior averaged 89.91% (range = 83%-99%) across all phases, and total IOA for both disruptive and appropriate student behavior averaged 87.91% (range = 83%-95%) across all phases. Disruptive behavior IOA for Student B averaged 88.33% (range = 80%-98%) across all phases, appropriate behavior IOA averaged 88.88% (range = 80%-100%) across all phases, and total IOA for both disruptive and appropriate behavior for Student B averaged 88% (range = 80%-98%).

IOA for Classroom C was obtained for 25% of observations during the Baseline phase, 40% of observations during the initial Tootling phase, 40% of observations in the Withdrawal phase, and 50% of observations during the re-implementation of the intervention. IOA for disruptive behavior in Classroom C averaged 95.71% (range = 86%-100%) across all phases, appropriate behavior averaged 93.86% (range = 88%-96%) across all phases, and total IOA for both disruptive and appropriate student behavior averaged 93.14% (range = 86%-96%) across all phases. Disruptive behavior IOA for Student C averaged 98.5% (range = 95%-100%) across all phases, appropriate behavior

IOA averaged 92.83% (range = 85%-98%) across all phases, and total IOA for both disruptive and appropriate behavior for Student C averaged 92.83% (range = 85%-98%).

### Kappa

The Kappa coefficient was also calculated for both disruptive and appropriate behavior for classwide and target student behavior. Kappa is a statistical coefficient that determines the proportion of agreement between raters when agreement by chance is accounted for. When interpreting Kappa, values of .40 or less are considered *poor* agreement, values between .40 and .60 are considered *fair* agreement, values between .60 and .75 represent *good* agreement, and values of .75 and greater represent *excellent* agreement (Watkins & Pacheco, 2000). Mean Kappa for Classroom A for appropriate behavior was .61, and mean Kappa for disruptive behavior in Classroom A was .67. Kappa values for appropriate target student behavior averaged .64, and Kappa values for disruptive target student behavior averaged .66. Overall, Kappa scores for Classroom A and Student A revealed *good* agreement between observers across disruptive and appropriate behavior.

Kappa values for appropriate behavior in classroom B averaged .73 and had an average of .67 for disruptive behavior. Kappa values for appropriate target student behavior averaged .54, and Kappa values for disruptive target student behavior averaged .57. Overall, Kappa scores for Classroom B revealed *good* agreement between observers, and values for Student B were considered to be *fair* between observers.

Mean Kappa for Classroom C for appropriate behavior was .81, and mean Kappa for disruptive behavior in Classroom C was .87. Kappa values for appropriate target student behavior averaged .68, and Kappa values for disruptive target student behavior

averaged .71 between observers. Overall, Kappa scores for Classroom C revealed *excellent* agreement between observers, and values for Student C were considered to be *good* between observers.

#### Treatment Integrity

Treatment integrity was evaluated via a checklist containing the steps required for proper implementation of the Tootling intervention by the classroom teachers (i.e., providing the students with index cards daily, reading tootles at the end of each day, posting progress of the class, and awarding the class reinforcers if the criterion is met). Because observers were not able to observe all aspects of the intervention throughout the class period each day, the teacher completed a treatment integrity checklist each day after completing the steps involved in the intervention (see Appendix J; Lambert, 2012). Treatment integrity as rated by the classroom teacher for Classroom A averaged 94.62% (range = 80%-100%) of steps completed daily. Mean treatment integrity for Classroom B was 93.75% (range = 60%-100%) of steps completed, and treatment integrity for Classroom C averaged 94.74% (80%-100%) of steps completed.

Additionally, the primary investigator and trained observers also measured integrity by completing a checklist during observations which assessed for the presence of necessary intervention materials in the room, such as having the feedback chart displayed in a visible area of the room and updated from previous days, having the collection container in an accessible place for students, and whether the students had index cards on their desks (see Appendix K; Lambert, 2012). Treatment Integrity as rated by observers averaged 96% (range = 75%-100%) of steps completed for Classroom A, 94% (range = 50%-100%) of steps completed for Classroom B, and 97% (range =

75%-100%) of steps completed for Classroom C. Interobserver agreement for treatment integrity was also collected for 41% of observations during treatment phases in Classroom A, 40% of observations in Classroom B, and 44% of observations in Classroom C. Treatment integrity IOA was calculated as number of agreements of steps completed divided by the number of total steps. Treatment integrity IOA was 100% between observers across all observations and all classrooms.

### Procedural Integrity

Procedural integrity data were assessed for the classroom teacher's implementation of the Tootling training procedures prior to the implementation of the intervention procedures. The primary investigator completed a training integrity checklist to determine whether the teacher implemented the steps required to train the students how to tootle (see Appendix L). Procedural integrity during the training sessions was 100% for both Classroom B and Classroom C. Procedural Integrity for Classroom A was 85.71% due to the teacher neglecting to show the students the feedback chart. The teacher in Classroom A was given feedback by the primary investigator, and the teacher was observed during a second, abbreviated training session in which integrity was 100%. Additionally, IOA data were obtained for the Tootling training sessions and averaged 100% for all three classrooms.

## CHAPTER III

### RESULTS

Figure 1 illustrates the percent of behavioral occurrence for both Classroom A and Student A. Mean percent of disruptive behavior for Classroom A was 28.4% (range = 18%-36%) of intervals observed during baseline with a slightly increasing trend. Data decreased to a mean of 12.3% (range = 1%-26%) of intervals during the initial intervention phase and demonstrated a decreasing trend across the phase. Upon removal of the intervention, disruptive data increased to near baseline levels with a mean of 24% (range = 18%-29%) of intervals. When Tootling was re-implemented, mean levels of disruptive behavior decreased again to 13% (range = 5%-20%) of intervals and maintained a slightly decreasing trend for the remainder of the phase.

Appropriate behavior data were variable during baseline with a mean of 65% (range = 55%-78%) of intervals observed. The introduction of the Tootling phase produced an initial increase in level with a mean of 85.9% (range = 73%-98%) of intervals as well as an overall upward trend throughout the phase. Despite an overall increasing trend in appropriate behavior during withdrawal, mean level of behavior decreased to a mean of 76% (range = 61%-87%) of intervals. During the re-implementation of Tootling, mean level of appropriate behavior averaged 84% (range = 78%-95%) of intervals with an increasing trend. Data remained slightly variable throughout all phases with regard to both disruptive and appropriate behavior.

For Student A, percent of intervals of occurrence of disruptive behavior averaged 30.2% (range = 15%-53%) of intervals during baseline with considerable variability and demonstrated a slightly decreasing trend overall. During the initial

Toothing phase, mean level of occurrence decreased slightly to an average of 25.22% (range = 15%-43%) of intervals and trended upward towards the end of the phase. Mean level of disruptive behavior increased above baseline levels to 40.33% (range = 15%-58%) of intervals for the withdrawal phase; however, the final point in the phase showed a substantial decrease from previous points. During the re-implementation of the intervention, mean level of disruptive behavior decreased below the initial Toothing implementation to an average of 16.83% (range = 5%-33%) of intervals.

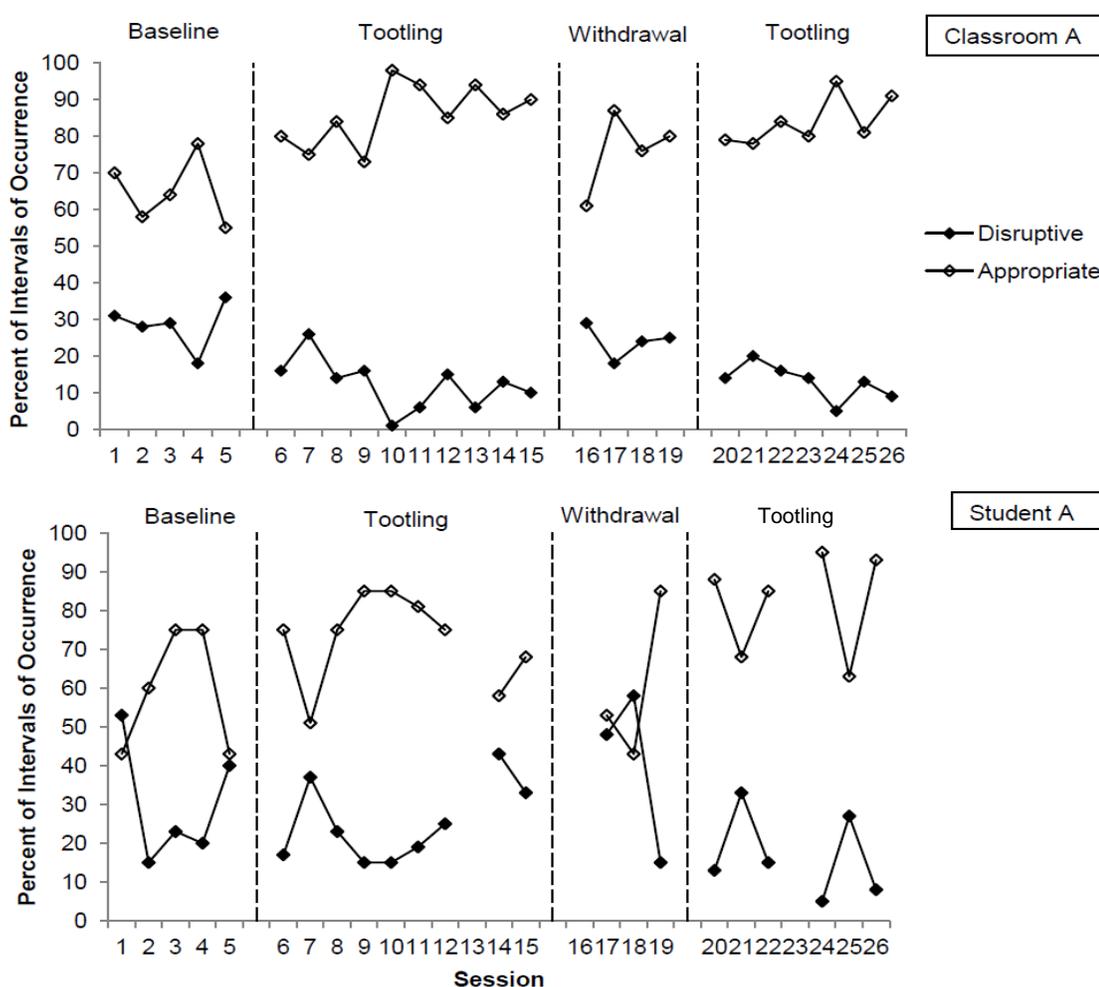


Figure 1. Percentage of intervals of occurrence for disruptive and appropriate behaviors for Classroom A and Student A.

Appropriate behavior for Student A averaged 59.2% (range = 43%-75%) of intervals during baseline and increased slightly to a mean of 72.56% (range = 51%-85%) of intervals for the first Tootling phase. During the withdrawal phase, mean level of appropriate behavior initially decreased back to baseline levels with an average of 60.33% (range = 43%-85%) of intervals but increased considerably during the final session. Once the intervention was re-implemented, appropriate behavior levels further increased to an average of 82% (range = 63%-95%) of intervals. Variability was high across all phases for both disruptive and appropriate behavior data for Student A.

Figure 2 illustrates the percent of behavioral occurrence for Classroom B and Student B. Data for Classroom B were variable for both disruptive and appropriate behavior across all phases. Mean percent of disruptive behavior for Classroom B was 31% (range = 23-35%) of intervals during baseline and decreased to 23.13% (range = 9%-40%) of intervals upon implementation of the first Tootling phase with an overall decreasing trend. Additionally, during the first Tootling phase, disruptive behavior initially showed an increasing trend but decreased immediately following performance feedback from the primary investigator regarding integrity errors; however, additional integrity errors were also discovered following another increasing trend in disruptive behavior but again decreased immediately after feedback was given to the classroom teacher. During the withdrawal phase, disruptive behavior increased above baseline levels to an average of 34% (range = 29%-37%) of intervals and trended upward. Mean percent of disruptive behavior decreased further to 17.4 % (range = 15%-22%) of intervals for the final Tootling phase and showed greater stability.

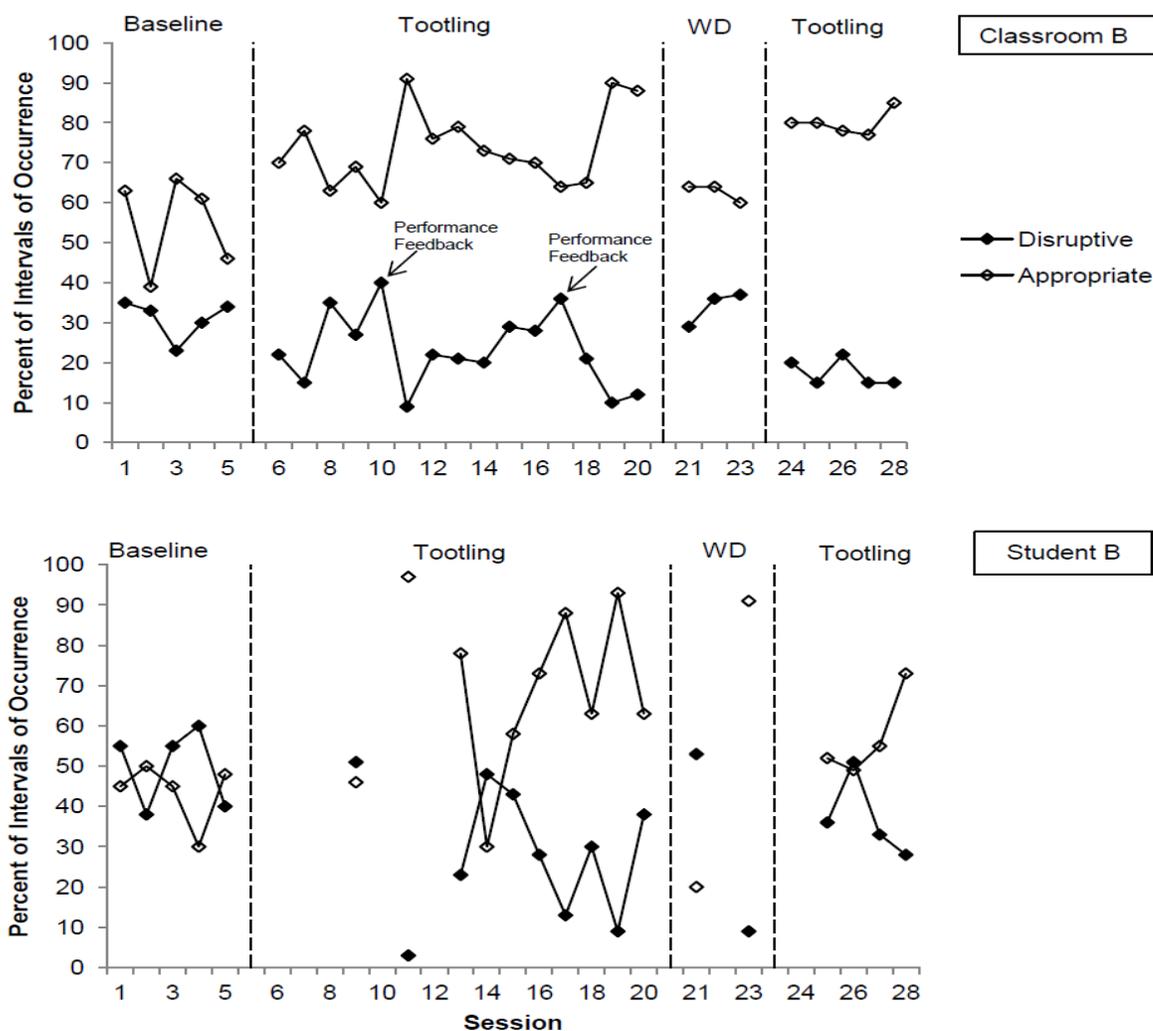


Figure 2. Percentage of intervals of occurrence for disruptive and appropriate behaviors for Classroom B and Student B.

Mean percent of appropriate behavior averaged 55% (39%-66%) of intervals during the baseline phase. Appropriate behavior increased to an average of 73.8% (range = 60%-91%) of intervals during the initial Tootling phase and had an overall increasing trend. When the intervention was withdrawn, there was an immediate change in level and percent of intervals of appropriate behavior decreased to an average of 62.67% (range = 60%-64%) of intervals. During the re-implementation of Tootling, appropriate

behavior again showed an immediate increase in level and averaged 80% (range = 77%-85%) of intervals with less variability.

Percent of intervals of occurrence of disruptive behavior for Student B averaged 49.6% (range = 38%-60%) of intervals in the baseline condition, and data were variable throughout the phase. Mean disruptive behavior decreased to 28.6% (range = 3%-51%) upon implementation of the initial Tootling phase, although with considerable variability, and increased to a mean of 31% (range = 9%-53%) of intervals for the withdrawal phase. Disruptive behavior increased slightly to 37% (range = 28%-51%) of intervals during re-implementation of the intervention and remained variable; however, the data showed a downward trend for the final two sessions.

Mean appropriate behavior for Student B was 43.6% (range = 30%-50%) of intervals during baseline and increased to 68.9% (range = 30%-97%) of intervals during the initial introduction of tootling. Appropriate behavior decreased to an average of 55.5% (range = 20%-91%) of intervals during withdrawal with high variability and increased slightly to an average of 57.25% (range = 49%-73%) of intervals observed during re-implementation of the intervention with an increasing trend for the final two sessions. Data across all phases remained highly variable.

Figure 3 illustrates the percent of behavioral occurrence for Classroom C and Student C. Mean level of disruptive behavior for Classroom C was 34.75% (range = 29%-40%) of intervals during baseline with an overall increasing trend. Upon implementation of Tootling, mean level of disruptive behavior decreased to 13.2% (range = 8%-18%) of intervals and trended downward. During withdrawal of the intervention, mean disruptive behavior increased to an average of 29.8% (range = 25%-33%) of

intervals, and decreased again to 16.25% (range = 13%-21%) of intervals when Tootling was re-implemented.

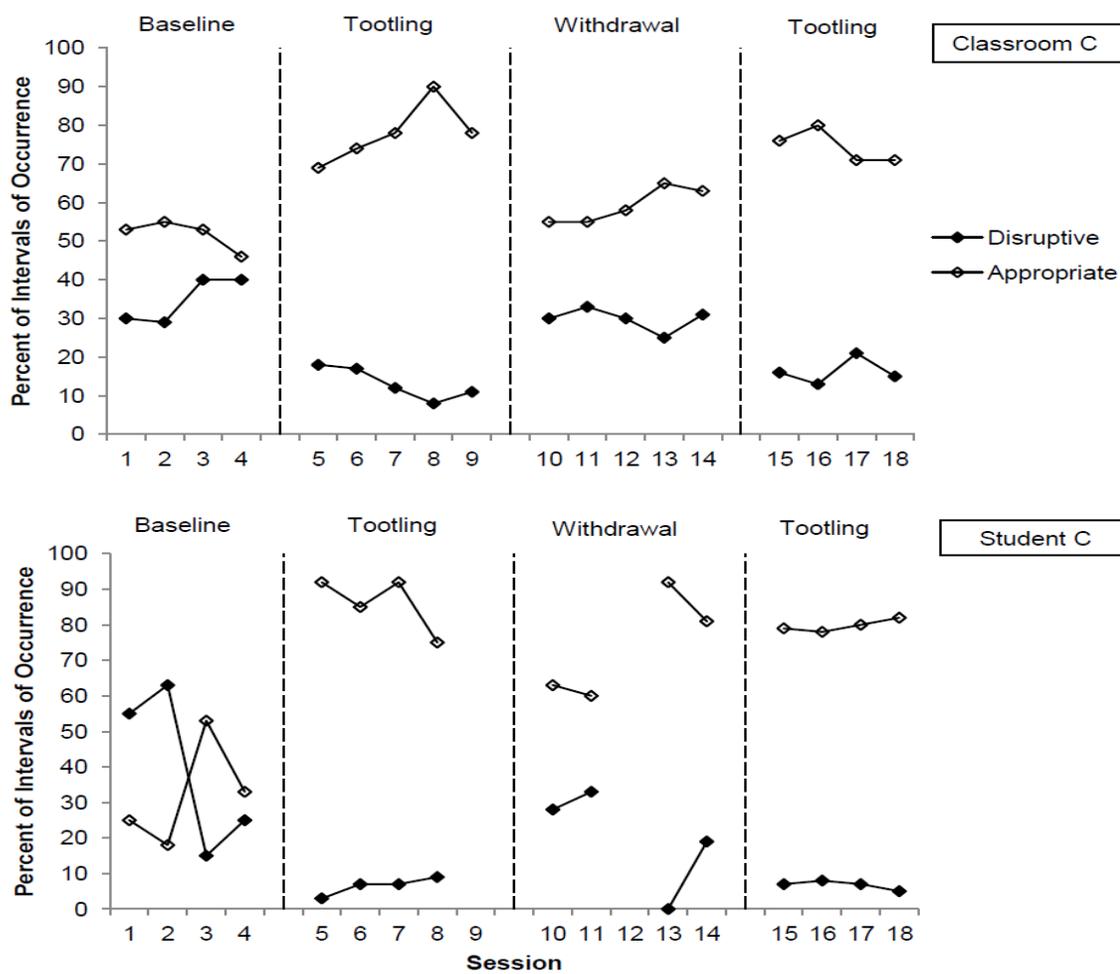


Figure 3. Percentage of intervals of occurrence for disruptive and appropriate behaviors for Classroom C and Student C.

Mean level of appropriate behavior for Classroom C was 51.75% (range = 46%-55%) of intervals during baseline and increased to an average of 77.8% (range = 69%-90%) of intervals once Tootling was introduced. During the withdrawal phase, appropriate behavior decreased to near baseline levels with an average of 59.2% (range = 55%-65%) of intervals. Once Tootling was re-implemented, appropriate behavior increased to an average of 74.5% (range = 71%-80%) of intervals.

Mean percentage of intervals of disruptive behavior for Student C was 39.5% (range = 15%-63%) of intervals during baseline with high variability. The introduction of Tootling produced a considerable decrease from baseline levels to an average of 6.5% (range = 3%-9%) of intervals observed and with decreased variability. During the withdrawal phase variability increased again and mean percent of behavior increased to an average of 20% (0%-33%) of intervals. The final Tootling phase again produced a decrease in variability and mean disruptive behavior decreased to 6.75% (range =5%-8%) of intervals observed.

Mean appropriate behavior for Student C was 32.25% (range = 18%-53%) of intervals during baseline, and variability was high with a slight increasing trend. Once the Tootling intervention was implemented, there was an immediate increase in level with the mean level of appropriate behavior averaging 86% (range = 75%-92%) of intervals. During the withdrawal phase, mean level of appropriate behavior decreased to 74% (range = 60%-92%) of intervals and variability increased. Upon re-implementation of Tootling, mean appropriate behavior increased slightly to 79.75% (range = 78%-82%) of intervals observed with less variability.

Each of the classroom teachers completed the *IRP-15* following the end of data collection. A rating above the cutoff score of 52.5 on this scale suggests that the teacher considered the intervention to be acceptable (Martens et al., 1985). Ratings from all three classroom teachers indicated higher acceptability of intervention procedures. The teacher in Classroom A endorsed a score of 68, and endorsed *Slightly Agree* to *Strongly Agree* on all items with the exception of one rating of *Slightly Disagree* to the item indicating that Tootling was a reasonable intervention for the target behaviors. Ratings from the teacher

in Classroom B produced a score of 76 with no ratings falling below a 4 (Slightly Agree). Ratings from the teacher in Classroom C also yielded a score of 76 with no score falling below 5 (agree) with the exception a rating of 1 (disagree) to the item indicating that Tootling was consistent with interventions used in her classroom in the past.

Ratings by target students on the *CIRP* also suggest that students found Tootling to be an acceptable intervention. Student A's responses yielded a score of 38, Student B's responses yielded a score of 41, and Student C's ratings produced a score of 35. All three students endorsed either *Agree* or *Strongly Agree* to items on the questionnaire.

## CHAPTER IV

### DISCUSSION

The results of the current study replicated the findings from Cihak et al. (2009) and Lambert (2012), demonstrating that the Tootling intervention is effective for reducing classwide disruptive behavior. Additionally, the findings from the current study were consistent with those of Lambert (2012) which demonstrated that Tootling produces increases in classwide appropriate behavior. Furthermore, present results extend the literature by examining the effects of Tootling on individual student behavior. Despite variability across all phases for both disruptive and appropriate behavior for Students A and B, overall positive treatment effects were obtained for all three target students. The present study also extends the literature by demonstrating the effectiveness of Tootling with upper elementary and middle school students. Tootling was also rated to be acceptable by teachers as well as individual target students.

#### Research Question 1

The aim for Research Question 1 was to examine whether Tootling would decrease classwide disruptive behaviors in upper elementary and middle school children. For Classrooms A and C, there was little to no overlap in disruptive behavior between baseline and withdrawal phases compared to intervention phases. Additionally, disruptive data demonstrated a downward trend for both intervention phases in both classrooms. Initial results obtained for Classroom B demonstrated high overlap with baseline levels; however, after multiple instances of performance feedback regarding integrity errors, disruptive behavior levels decreased below baseline levels during the second implementation of Tootling with no overlap in data. Taken together, the results

from the current study affirmed Research Question 1 as results across all three classrooms demonstrated overall decreases in disruptive classwide behavior when compared to initial baseline and withdrawal levels.

#### Research Question 2

The aim for Research Question 2 was to determine whether Tootling would decrease the disruptive behavior of a target student nominated by the classroom teacher as having higher levels of disruptive behavior than peers. For one of the target students (i.e., Student C), decreases in disruptive behavior levels were seen when the Tootling intervention was in place as compared to baseline and withdrawal phases with little to no overlap in the data. Although Student A demonstrated slight decreases in behavior overall, the data were highly variable and substantial overlap was seen between intervention and withdrawal phases. For the target student in Classroom B, disruptive behavior showed a slight decrease during the initial Tootling phase with some overlap as compared to baseline; however, disruptive behavior data increased slightly during subsequent phases and remained variable. Additional research is needed to evaluate the effectiveness of Tootling for decreasing the disruptive behavior of target students referred for high levels of disruptive behavior.

#### Research Question 3

Research Question 3 examined whether Tootling would increase the classwide appropriate behaviors in upper elementary and middle school children. For both Classrooms A and B, appropriate behavior showed an increasing trend during the initial intervention phase with some overlap with baseline data, and little to no overlap with initial baseline levels during the final intervention phase. Data for Classroom C

demonstrated clear treatment effects with no overlap in data between intervention and withdrawal phases for appropriate behavior. The results of the current study affirm Research Question 3.

#### Research Question 4

The goal for Research Question 4 was to determine whether Tootling would increase appropriate behavior in target students chosen by the classroom teacher as having higher levels of disruptive behavior than peers. Overall increases in appropriate behavior were achieved for all three target students when Tootling was in place as compared to baseline and withdrawal phases. Although data for Students A and B were variable across phases with some overlap between phases, increases in appropriate behavior levels were demonstrated during Tootling phases. The results from the present study affirm Research Question 4.

#### Research Question 5

The aim of Research Question 5 was to examine whether target students and teachers would rate Tootling as an acceptable intervention in the classroom. Ratings produced by classroom teachers on the *IRP-15* were well above the clinical cutoff score, suggesting that teachers found the intervention to be acceptable. In addition, student ratings from the *CIRP* were high as none of the students endorsed a rating lower than 5 out of a possible 6 on the scale. Results obtained from teacher and student ratings affirm Research Question 5.

#### Limitations and Future Research

Several limitations should be addressed when interpreting results of the current study. First, Tootling was examined across three classrooms in schools located in a rural

Southeastern state, two of which were in the same grade at the same school. Thus, generalizability of findings to children in other schools and geographic locations may be limited; more replications are necessary to determine the effects of Tootling in various settings and locations. The results from the present study also demonstrated that Tootling had positive effects for the classwide behavior of sixth- and seventh-grade students, and previous research has examined the behavioral effects of Tootling for third-, fourth-, and fifth-grade students (Cihak et al., 2009; Lambert, 2012); therefore, future research should examine the use of Tootling at both higher and lower grade levels as well as consider any age-appropriate modifications to procedures that may be necessary.

Similarly, generalizability of results may have been affected when considering that both schools included in the present study were participating in a SWPBIS program. It is currently unknown whether having an established positive behavior support program in place prior to and during the study potentially had any moderating effects on the efficacy of the Tootling intervention; thus, the results from the current study may not generalize to schools that do not already have an existing SWPBIS program.

Additionally, observation length may not have allowed for an adequate sampling of behavior across students as the observations were only conducted for 20 minutes; thus, target students were only observed for a total of 40, 10 second intervals, and non-target students were observed for a total of 80, 10 second intervals. However, research has shown that Momentary Time Sampling (MTS) procedures, when measured using smaller intervals (i.e., 10 second intervals), can detect accurate changes in behavior during shorter observation periods (i.e. 10 minute observations; Devine, Rapp, Testa, Henrickson, & Schnerch, 2011; Rapp et al., 2007). Thus, while obtaining a larger

sampling of behaviors over longer observations may be more ideal, lengthier observations may be less practical and the use of MTS can still provide accurate information given the time restraints of observations conducted in applied settings.

Another limitation to consider is that the teacher in classroom B was given performance feedback concerning poor treatment integrity on two occasions. The first instance of performance feedback was given due to the teacher not providing the students the reinforcer the day after the goal was met (i.e., the class met their goal on a Monday and the teacher withheld the reward until the following Friday). The next instance of performance feedback was given because the teacher was not updating the feedback chart regularly, the writing on the feedback chart was too small for the students to see, and the teacher was not consistently reviewing/announcing the intervention at the beginning of the period each day.

Research suggests that fidelity of implementation is crucial in determining intervention effectiveness (Gresham, Gansle, Noell, & Cohen, 1993; Peterson, Homer, & Wonderlich, 1982). Therefore, it is reasonable to conclude that the variability seen in the data for Classroom B may have been due to the inconsistency of integrity of implementation of the intervention procedures. Furthermore, the importance of performance feedback for improving treatment integrity and subsequent outcomes has also been emphasized in the literature (Duncan, Dufrene, Sterling, & Tingstrom, 2013; Noell, Witt, Gilbertson, Ranier, & Freeland, 1997; Witt, Noell, LaFleur, & Mortenson, 1997). This point is strengthened by the results of the current study when considering the immediate decreases in disruptive behavior as well as increases in appropriate behavior

which occurred following both instances of feedback to the teacher in Classroom B regarding integrity errors.

Likewise, the variability seen in the data for Student B may also be attributed to implementation concerns. Specifically, Student B was absent for several days across the study and had to receive a separate Tootling training because she missed the initial training received by the class. Therefore, although overall improvements can be seen in the data for Student B after consistent exposure to the intervention, Student B had limited and inconsistent access to the intervention procedures throughout the study, which likely impacted the effectiveness of Tootling for improving behavior.

Additionally, as Tootling is conducted throughout the period, and observations were conducted for only 20 minutes, the primary investigator had to rely mostly on the teachers' self-report of treatment integrity (i.e., integrity checklists completed by the teachers daily) as well as directly observable components of the intervention during each observation (i.e., observer integrity checklists). Given the integrity concerns in Classroom B despite high treatment integrity scores, future studies may consider modifying the treatment integrity checklists as they may not have accurately captured potentially important steps for the intervention (e.g., saliency of the information presented on the feedback chart).

Another potential direction for research could include determining the differential effects on student behavior when a peer, instead of the classroom teacher, reads the tootles and provides praise and feedback. At the secondary level of education, children entering adolescence begin to look more to peers for influence and support and less to adults (e.g., parents, teachers); thus, peer feedback and praise may provide a source of

powerful social reinforcement potentially enhancing behavioral outcomes of the intervention (Muuss, Velder, & Porton, 1988; Wang & Dishion, 2011; Way & Greene, 2006).

Two of the classroom teachers also anecdotally reported concerns that only a few students were responsible for writing the tootles, and they did not believe it was fair for all children to receive the reward. Future research may seek to determine if pairing Tootling with an alternative to the interdependent group contingency in which students are rewarded based on each individual's contribution of tootles (i.e., an independent group contingency) may produce similar effects on behavior as well as improve teacher acceptability of intervention procedures.

Furthermore, while it is unknown exactly which components and underlying behavioral mechanisms were responsible for changes in student behavior, the success of the Tootling intervention may have been attributed to several factors. The interdependent group contingency provided students with reinforcers for observing and reporting appropriate behaviors of peers, the feedback chart served as a discriminative stimulus marking progress toward the goal needed to achieve the chosen reinforcers, and the praise given by peers and teachers may have functioned as an important social reinforcer for students; thus, decreasing disruptive behaviors and producing increases in instances of appropriate behaviors. Additional research should include a component analysis to determine which aspects of the Tootling intervention are necessary to efficiently produce optimal behavior change. Results from the present study may have also been impacted by immediacy of reinforcement as class rewards were provided approximately once per

week. Future research may consider whether differential effects on behavior would be observed if the schedule of reinforcement was more dense (e.g., daily).

### Implications for Practice

When faced with multiple referrals from a single classroom/teacher, psychologists may consult with teachers and determine that a group contingency procedure may be an efficient first step in reducing problem behaviors both at the class and individual levels (Schanding & Sterling-Turner, 2010). The results of the current study strengthened the support for the use of the Tootling intervention, and extended it for use with upper elementary and middle school students, as an effective and acceptable (i.e., to teachers and individual students) intervention option for consultants to present to teachers when classwide disruptive behavior is a concern.

Preliminary results from the current study also suggest that Tootling may be a practical intervention choice when trying to reduce disruptive behavior at the individual level; however, overall behavior for target students was highly variable for two of the three participants. Therefore, alternative behavior management techniques will likely still need to be explored by the consultant and teacher (e.g., individualized behavior intervention plan) in order to further maximize individual student outcomes. Additional research is needed to determine the effects of Tootling for reducing disruptive behavior for target students.

Moreover, given that the teacher in Classroom B required performance feedback throughout the intervention process, the results from the current study suggest that it is imperative for consultants to monitor the implementation of interventions frequently as well as provide performance feedback as necessary in order to ensure optimal outcomes

for students and teachers. Results from the present study also revealed that the step that all three classroom teachers failed to implement on occasion was updating the feedback chart. This information is consistent with Lambert (2012), as classroom teachers also neglected to update the feedback chart on several occasions; therefore, consultants should consider paying particular attention to this step and assist teachers with feasible options and/or modifications for the use of the feedback chart during the consultation process to ensure that this step is implemented with integrity.

## APPENDIX A

## TEACHER CONSENT FORM

**Title of Study:** Evaluating the use of Tootling for Improving Upper Elementary/Middle School Students' Disruptive and Appropriate Behavior

**Purpose of Study:** Your permission is requested for participation in a study that is investigating the effects of an intervention called Tootling for reducing class-wide disruptive behaviors and also increasing appropriate behaviors. This study will also examine the effects of the intervention on individual target students referred for high levels of disruptive behavior.

**Who can participate:** Children in upper elementary/middle school (grades 6-8) school and their teachers can participate in the study. Additionally, the children must exhibit behavior that is inappropriate and/or disruptive to the classroom.

**Methods and Procedures:** Upon agreeing to participate, you will be contacted by the primary investigator to obtain information regarding your class' overall disruptive behaviors and to determine target behaviors to be observed. You will also be asked to nominate one student in the classroom who exhibits higher levels of disruptive behavior than his/her peers so that this student's behavior can be observed relative to peers. If the criterion for inclusion *is not* met, you may request services through an alternative intervention. If the criterion of 30% classwide disruptive behavior *is* met, you will be asked to implement the Tootling intervention. The primary investigator will train you in implementing the intervention using all necessary materials. You will also be given instructions about how to train the students on the Tootling intervention. In Tootling, the students will privately write classmates' appropriate behaviors on note cards throughout the day and place them in a designated box for collection. In consultation with the primary investigator, you will select the target behaviors and the Tootling implementation time. During intervention, each morning you will provide the students with index cards and then remind and encourage them to write their tootles. Students will be told that their number of tootles will be counted daily and posted to the class for feedback. If they earn a certain number of tootles, the class will earn a reward. The primary investigator and trained graduate students will conduct observations during the previously decided time when disruptive behavior is most likely to occur during a learning activity. Disruptive behaviors of concern and appropriate behaviors you wish to improve will be observed and recorded.

**Benefits:** Your benefits by participating in this study may include observed improvements in student behavior and learning a unique intervention designed to improve student behavior.

**Risks and Discomfort:** There are few anticipated risks associated with participation. Initially, you may not be comfortable with the time required to implement Tootling in

your classroom. You also may not feel comfortable implementing an unknown and new procedure in your classroom. However, you will be provided with training by the primary investigator as well as any additional materials needed for implementation. The primary investigator will also be available to answer any questions you may have. Throughout the experiment, your students' behavior will be monitored. In the event that undesired and unanticipated effects arise (e.g., increase in disruptive behaviors), modifications or termination of procedures will occur and you and your students will be provided with other services.

**Confidentiality of Records:** All interviews, observations, and other information obtained during this study will be kept strictly confidential. Your name, students' names, and other identifying information will not be disclosed to any person not connected with this study. Results from this research project may be shared at professional conferences or published in scholarly journals; however, all identifying information will be removed from publications and/or presentations.

**Voluntary Participation:** Your participation in this study is voluntary. You may withdraw from this study at any time without penalty, prejudice, or loss of benefits. Whereas no assurance can be made concerning results that may be obtained (as results from investigational studies cannot be predicted), the primary investigator will take every precaution consistent with the best scientific practice.

**Teacher's Consent:** If you agree to participate, please read, sign, and return the following page. Please keep this letter for your records. If you have any questions about this study, please contact Abigail Lambert or Dr. Daniel Tingstrom (Phone: 266-5255; email: [alambert14@gmail.com](mailto:alambert14@gmail.com); [daniel.tingstrom@usm.edu](mailto:daniel.tingstrom@usm.edu)). This project and this consent form have been reviewed by the Human Subjects Protection Review Committee, which ensures that research projects involving human subjects follow federal regulations. Any questions or concerns about rights as a research subject should be directed to the Institutional Review Board Office, The University of Southern Mississippi, Box 5147, Hattiesburg, MS 39406-5147, (601) 266-6820.

Sincerely,

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Abigail Lambert, M.A.  
School Psychologist in Training

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Daniel Tingstrom, Ph.D.  
Supervisor

**THIS SECTION TO BE COMPLETED BY TEACHER**

Please Read and Sign the Following:

*I have read the above documentation and consent to participate in this project. I have had the purpose and procedures of this study explained to me and have had the opportunity to ask questions. I am voluntarily signing this form to participate under the conditions stated. I have also received a copy of this consent. I understand that I will be asked to implement a classroom-based intervention, and observations will be conducted in the classroom on the students' behavior. In order to do so, I will be required to complete a consultation session, to implement the intervention, and to complete a structured questionnaire to assess my satisfaction with the intervention. In addition, I will be trained on all of the intervention procedures by the primary experimenter. I further understand that all data collected in this study will be confidential and that my name and the students' names will not be associated with any data collected. I understand that I may withdraw my consent for participation at any time without penalty, prejudice, or loss of privilege.*

---

*Signature of Teacher*

---

*Date*

---

*Signature of Witness*

## APPENDIX B

## PARENT CONSENT FORM

**Title of Study:** Evaluating the Effects of Tootling on Upper Elementary/Middle School Students' Disruptive and Appropriate Behavior

**Purpose of Study:** Your permission is requested for your child to participate in a study that is investigating the effects of an intervention called Tootling for reducing class-wide disruptive behaviors and also increasing appropriate behaviors. This study will also examine the effects of the intervention on individual target students referred for high levels of disruptive behavior.

**Who can participate:** Children in upper elementary/middle school can participate in the study. Additionally, the children must exhibit behavior that is inappropriate and/or disruptive to the classroom. Your child's teacher has agreed to implement the Tootling intervention in his/her classroom and has nominated your child as a student who may qualify for participation as a target student.

**Methods and Procedures:** Should you agree to let your child be selected for individual observation during the study, your child's and his or her classmates' disruptive and appropriate behaviors will be observed to determine qualification for the study. If your child's class qualifies for the study, your child's teacher will implement the Tootling intervention with all students as a general classroom management strategy. In Tootling, the students will privately write classmates' appropriate behaviors on note cards throughout the day and place them in a box for collection. If the class earns a certain number of tootles, the class will earn a reward provided by the primary investigator and/or classroom teacher. The researcher and trained graduate students will conduct observations during the time when disruptive behavior is most likely to occur during a learning activity. Disruptive behaviors of concern and appropriate behaviors the teacher wishes to improve will be observed and recorded.

**Benefits:** Your child may benefit by participating in this study because the intervention may improve your child's behavior.

**Risks and Discomfort:** There are few anticipated risks associated with participation. All children in the class will participate in Tootling which means that, although your child's behavior will be observed separately from his/her peers, he/she will not receive any additional intervention outside of what the class receives or be singled out from classmates in any way. In addition, your child's behavior may worsen as a result of this study. In the event that this occurs, appropriate steps will be taken to modify the intervention or initiate additional services.

**Confidentiality of Records:** All information obtained during this study will be kept

confidential, meaning that your child's name and any other identifying information will be withheld from all persons not connected with the study. Some circumstances may obligate us to release information about you and your child, such as if your child reports that he or she plans to harm him or herself or others, if the child reports abuse, if we are ordered by the court to release information, or if there is a medical emergency in which the release of information is important to ensure your child's or another person's safety. In the event that data taken from this investigation are used for presentation publications, no identifying information will be released. Participant records will be maintained for three years after the last contact with the participant. Outdated material will be disposed of by paper shredding.

**Voluntary Participation:** Permission for your child's participation in this study is voluntary. You may withdraw your child from this study at any time without penalty, prejudice, or loss of benefits. Because we are teaching an intervention to the classroom teacher, he or she may elect to continue using the intervention. However, at your request we would not include any data associated with your child in the present investigation. Whereas no assurance can be made concerning results that may be obtained (as results from investigational studies cannot be predicted), the researcher will take every precaution consistent with the best scientific practice.

**Parent Consent:** If you agree to allow your child participate, please read, sign, and return the following page. Please keep this letter for your records. If you have any questions about this study, please contact Abigail Lambert or Dr. Daniel Tinstrom (Phone: 266-5255; email: [alambert14@gmail.com](mailto:alambert14@gmail.com); [daniel.tingstrom@usm.edu](mailto:daniel.tingstrom@usm.edu)). This project and this consent form have been reviewed by the Human Subjects Protection Review Committee, which ensures that research projects involving human subjects follow federal regulations. Any questions or concerns about rights as a research subject should be directed to the Institutional Review Board Office, The University of Southern Mississippi, Box 5147, Hattiesburg, MS 39406-5147, (601) 266-6820.

Sincerely,

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Abigail Lambert, M.A.  
School Psychologist in Training

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Daniel Tingstrom, Ph.D.  
Supervisor

**THIS SECTION TO BE COMPLETED BY PARENT**

Please Read and Sign the Following:

*I have read the above documentation and consent for my child to participate in this project. I have had the purpose and procedures of this study explained to me and have had the opportunity to ask questions. I am voluntarily signing this form to have my child participate under the conditions stated. I have also received a copy of this consent. I further understand that all data collected in this study will be confidential and that my child's name and the teacher's name will not be associated with any data collected. I understand that I may withdraw my consent for my child's participation at any time without penalty, prejudice, or loss of privilege.*

---

*Name of Child*

---

*Signature of Parent*

---

*Date*

---

*Signature of Witness*

---

*Date*

## APPENDIX C

## TEACHER DEMOGRAPHICS FORM

**Teacher Demographics:**

Number of years teaching \_\_\_\_\_

Race \_\_\_\_\_

Gender \_\_\_\_\_

Highest Degree earned \_\_\_\_\_

**Classroom Demographics:**

Number of Students in the class \_\_\_\_\_

Number of: males \_\_\_\_\_ females \_\_\_\_\_

Number of: Hispanic \_\_\_\_\_ African-American \_\_\_\_\_ Asian \_\_\_\_\_ Caucasian \_\_\_\_\_

Circle *one*: General Ed                      Special Ed Inclusion

If Inclusion:

Number of SPED students in your classroom: \_\_\_\_\_

Please list the disability categories of each child in SPED (do not include names or any other identifying information):

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**Target Student Demographics:**

Age: \_\_\_\_\_ Grade: \_\_\_\_\_ Race: \_\_\_\_\_

Circle one: General Education student                      Special Education student

If Special Education, what disability category does the student receive services under:

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## APPENDIX D

## IRB APPROVAL FORM

**INSTITUTIONAL REVIEW BOARD**

118 College Drive #5147 | Hattiesburg, MS 39406-0001

Phone: 601.266.6820 | Fax: 601.266.4377 | www.usm.edu/irb

**NOTICE OF COMMITTEE ACTION**

The project has been reviewed by The University of Southern Mississippi Institutional Review Board in accordance with Federal Drug Administration regulations (21 CFR 26, 111), Department of Health and Human Services (45 CFR Part 46), and university guidelines to ensure adherence to the following criteria:

- The risks to subjects are minimized.
- The risks to subjects are reasonable in relation to the anticipated benefits.
- The selection of subjects is equitable.
- Informed consent is adequate and appropriately documented.
- Where appropriate, the research plan makes adequate provisions for monitoring the data collected to ensure the safety of the subjects.
- Where appropriate, there are adequate provisions to protect the privacy of subjects and to maintain the confidentiality of all data.
- Appropriate additional safeguards have been included to protect vulnerable subjects.
- Any unanticipated, serious, or continuing problems encountered regarding risks to subjects must be reported immediately, but not later than 10 days following the event. This should be reported to the IRB Office via the "Adverse Effect Report Form".
- If approved, the maximum period of approval is limited to twelve months.  
Projects that exceed this period must submit an application for renewal or continuation.

PROTOCOL NUMBER: **12101002**PROJECT TITLE: **Evaluating the Use of Tootling for Improving Upper Elementary/Middle School Students' Disruptive and Appropriate Behavior**PROJECT TYPE: **Dissertation**RESEARCHER/S: **Abigail M. Lambert**COLLEGE/DIVISION: **College of Education & Psychology**DEPARTMENT: **Psychology**FUNDING AGENCY: **N/A**IRB COMMITTEE ACTION: **Expedited Review Approval**PERIOD OF PROJECT APPROVAL: **11/28/2012 to 11/27/2013**

**Lawrence A. Hosman, Ph.D.**  
**Institutional Review Board Chair**

## APPENDIX E

## SCRIPT FOR TOOTLING TRAINING SESSION

**Training Steps**

1. Define Tootling.

**Say:** We are going to talk about the opposite of tattling, called Tootling. When you are tootling, you are reporting when your classmates do something good or helpful instead of reporting when they do something wrong.

2. Start a discussion with the class, asking for specific examples. Start the discussion by giving an example. Also include some unacceptable examples.

**Say:** One example of a tootle is, “Sara was working quietly.” Now that we know what a tootle is, who can give me another example of a good thing that someone said or did.

3. Teach the class what to write on the note cards.

**Say:** On each note card, you will write the student’s name and what he or she did or said that was good or nice.

4. Have each student write a practice tootle on a note card.

**Say:** I want everyone to write one tootle on an index card for practice. When you’re finished, I will collect them and read it out loud so we can practice some more together.

**Praise acceptable examples and provide feedback for inappropriate examples.**

5. Explain the procedure.

**Say:** Each day I will give each of you some index cards. Each time you see a classmate doing something good or nice *during this class period*, I want you to write it down on the card. You may write 2 tootles on each of the index cards. One tootle goes on the front and the other tootle goes on the back. When the card has 2 tootles on it, then you use a new card. If you run out of cards, ask me, and I will give you more.

**Then Say:** Remember, when you write a tootle, be sure to put the date, the person’s name, and what they did that was appropriate.

6. Tell the class that they can put their note cards in the designated tootling box during transitional periods.

**Say:** You can put your note cards in this box (hold up box) during your free time between activities. For example, this means you have to hold on to your cards until it is time to switch from reading to math or right before we go to lunch. Then you may get up and put your cards in the box.

7. Tell the class that you will count the tootles and add them up for their reward.

**Say:** At the end of each day, I will count the number of tootles in the box and put it on the poster so you can see. If you have X number of tootles, then the whole class will get a reward.

**Allow the class to come up with reward ideas and then choose two or three.**

APPENDIX F  
SCRIPT FOR TOOTLING

**Steps**

1. Beginning of the period: Hand out index cards to each student

**Say:** Remember we are going to be tootling today. Here are your index cards to write on.

2. Beginning of the period: Review instructions for recording tootles and encourage tootling

**Say:** Remember, each time you see a classmate doing something good or nice *during this period*, I want you to write the date, that person's name, and what they did on this card. I will give you the chance to put your cards in the box whenever we switch activities, so hold on to your cards until then.

**Then say:** If we reach our goal of X number of tootles we get \_\_\_\_\_ reward (if there are previous days in the week where tootles were collected, show the students their progress using the feedback chart).

3. During transitional periods: allow students to put their cards in the box

**Say:** If anyone has any cards to put in the tootle box, you may do so now.

4. Afternoon: At the end of the day, choose at least 5 tootles from the box and read them aloud to the class.

**Praise the student listed on the tootle for doing something good and the class for writing tootles appropriately.**

5. Afternoon: Add up the tootles for the day and calculate the total tootles produced by the class toward their goal. Then, mark progress on feedback chart to display to the class.

## APPENDIX G

## INTERVENTION RATING PROFILE-15/MODIFIED VERSION

Please respond to each of the following statements thinking about the intervention you implemented (i.e., Tootling). Please then circle the number associated with your response. Be sure to answer all statements.

	Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree
Tootling was an acceptable intervention for the students' problem behavior(s).	1	2	3	4	5	6
Most teachers would find tootling appropriate for other classroom behavior problems	1	2	3	4	5	6
Tootling proved effective in helping to change students' problem behavior(s).	1	2	3	4	5	6
I would suggest the use of tootling to other teachers.	1	2	3	4	5	6
The behavior problems were severe enough to warrant use of this intervention.	1	2	3	4	5	6
Most teachers would find tootling suitable for the classroom use described.	1	2	3	4	5	6
I would be willing to use tootling again in the classroom.	1	2	3	4	5	6
Tootling did <i>not</i> result in negative side effects for the students.	1	2	3	4	5	6
This intervention would be appropriate for a variety of students.	1	2	3	4	5	6
Tootling was consistent with interventions I have used in the classroom setting.	1	2	3	4	5	6
Tootling was a fair way to handle the students' problem behavior.	1	2	3	4	5	6
Tootling was reasonable for the problem behaviors described.	1	2	3	4	5	6
I liked the procedures used in tootling	1	2	3	4	5	6
Tootling was a good way to handle the students' problem behavior.	1	2	3	4	5	6
Overall, tootling was beneficial to the students.	1	2	3	4	5	6

Taken and adapted from, Martens, B.K., Witt, J.C., Elliott, S.N., & Darveaux, D. (1985). Teacher judgments concerning the acceptability of school-based interventions. *Professional Psychology: Research and Practice*, 16, 191-198.

## APPENDIX H

## CHILDREN'S INTERVENTION RATING PROFILE/MODIFIED VERSION

	Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree
Tootling was fair.	1	2	3	4	5	6
Tootling did not cause problems for me.	1	2	3	4	5	6
Tootling did not cause problems with my friends.	1	2	3	4	5	6
Tootling is a good way to handle problem behavior in the classroom.	1	2	3	4	5	6
I like Tootling.	1	2	3	4	5	6
I think other students would like Tootling.	1	2	3	4	5	6
Tootling helped me do better in school.	1	2	3	4	5	6

Taken and adapted from Witt, J. C., & Elliot, S. N. (1985). Acceptability of classroom intervention strategies. In T. R. Kratochwill (Ed.), *Advances in School Psychology* (Vol. 4, pp. 251-288). Hillsdale, NJ: Erlbaum. Copyright 1985 by Lawrence Erlbaum Associates, Inc. Reprinted.



## APPENDIX J

## TREATMENT INTEGRITY FOR TOOTLING

*To be completed by the classroom teacher daily*

Date: \_\_\_\_\_

	<b>Tootling Steps</b>	Yes	No
<b>Beginning of the Period/class</b>			
1	Provide index cards to students		
2	Review tootling instructions and show feedback chart		
<b>During Transitional Times</b>			
3	Allow students time during transitions to put tootles in box		
<b>End of the Period/class</b>			
4	Read at least 5 tootles at the end of the day		
5	Add up tootles for the day/week and update feedback chart		

Number of steps completed: **/5**

Percentage of steps completed: \_\_\_\_\_

APPENDIX K

TREATMENT INTEGRITY FOR EXPERIMENTER OBSERVATIONS

Date: \_\_\_\_\_

	<b>Tootling Steps</b>	Yes	No
1	Feedback chart hung up in a visible area of the classroom		
2	Feedback chart updated from previous days		
3	Index cards visible on the students' desks		
4	Tootling collection container visible		

Number of steps completed: **/4**

Percentage of steps completed: \_\_\_\_\_

APPENDIX L  
INTEGRITY FOR TOOTLING TRAINING

Date: \_\_\_\_\_

Observer: \_\_\_\_\_

	<b>Training Steps</b>	Yes	No
1	Define Tootling		
2	Class discussion of examples and non-examples		
3	Teach students how to write on index cards		
4	Have each student write a practice tootle		
5	Explain tootling procedures		
6	Explain where to put tootles and when they can do it		
7	Explain feedback chart and poster		

Number of steps completed: *7*

Percentage of steps completed: \_\_\_\_\_

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