The Effects of a Token Economy on Tootling and Prosocial Behavior of Kindergarten Students in Three General Education Classrooms

Thesis

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By

Taylor Ryan, B.A

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The Ohio State University

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Thesis Committee:

Dr. Nancy Neef, Advisor

Dr. Helen Malone
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Abstract

Education professionals invariably focus on class management procedures aimed at decreasing disruptive behaviors in the classroom and less attention is placed on increasing positive, prosocial behavior. Although researchers have documented the effectiveness of using an interdependent group contingency to increase instances of prosocial behaviors in the classroom, researchers have not examined the efficacy of a dependent contingency in the context of a token economy to increase kindergarten students’ positive peer reporting in a general education classroom. This study used a multiple baseline design across participants to examine the effects of a token economy on the tootling and prosocial behavior of three kindergarten students in an urban elementary school. The results indicated that the token economy was effective at increasing the number of reported tootles reported in the classroom; however, collateral effects on prosocial behavior were not demonstrated. Potential implications of these findings and directions for further research will be discussed.
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Vita

2007 .................................................................Holy Cross High School

2011 ...............................................................B.A. Psychology, Miami University

2011–2013 ..........................Associate Teacher, The Ivymount School

2013 .................................................ABA Therapy Aide, Nationwide Children’s Hospital

2014 to present ..........................Graduate Research Associate, Department of Educational Studies, The Ohio State University

Fields of Study

Major Field: Educational Studies

Area of Specialization: Applied Behavior Analysis
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Chapter 1: Introduction

Current educational systems are designed extensively to prevent inappropriate behavior through the development of rules and contingencies for breaking the rules (Henington & Skinner, 1998). Unfortunately, inappropriate behavior is often penalized, and prosocial behavior is rarely reinforced (Skinner, Cashwell, & Skinner, 2000). There are a few reasons why this may occur: Teachers may not directly observe instances of students engaging in prosocial behavior; therefore, there may be fewer opportunities to reinforce appropriate behavior in the classroom. Alternatively, teachers may think that they do not need to provide reinforcement to students who are “doing what they are supposed to be do” (O’Leary, Poulos, & Devine, 1972; Pumroy & McIntyre, 1991).

White (1975) conducted observational studies across Grades 1 through 12 to determine naturally occurring rates of teacher praise (i.e., approval) and disapproval in the classroom. The author found that instances of disapproval far outweighed instances of praise statements. Specifically, the author noted that students rarely heard statements from a teacher identifying positive behaviors, such as “I like the way you are sitting”, or “You are behaving well.” This failure to reinforce instances of students engaging in positive, prosocial behavior may eliminate or decrease rates of these behaviors thereby teaching students that prosocial behavior is not valued (Skinner, Cashwell, & Skinner, 2000).
Positive Peer Reporting

Positive Peer Reporting (PPR) is a behavior analytic intervention developed to improve social interactions between peers in the classroom through the use of rewards and positive social attention (Ervin, Miller, & Friman, 2006). PPR uses peer ecology (e.g., peers, rather than teachers, provide reinforcement) to influence behavior and promote social acceptance of peer-rejected youth. In PPR-based interventions, peers are asked to provide positive statements to a target youth identified as the Recipient (Bowers et al., 2008). The peers (i.e., the Tellers) receive rewards, typically via a token economy system, for making positive statements to the Recipient. Consequently, the Recipient receives constant positive social attention, which shifts the peer ecology from one that includes aggressive rejection or isolation to one that is open and supporting. PPR-based class-wide interventions may benefit all children because they can be used to increase social collaboration of diverse students, as well as improve social interactions among peers (Bowers et al., 2008).

Researchers have demonstrated the efficacy of PPR in a number of settings, including a residential treatment center (Bowers, McGinnis, Ervin, & Friman, 1999), a school within a residential treatment center (Ervin, Miller, & Friman, 1996), a public school (Moroz & Jones, 2001), and foster care placement (Van Horn, 2004). For example, Morrison and Jones (2007) examined the effects of a class-wide positive behavior support program (i.e., PPR) on student social and emotional behaviors. The authors collected data from two 3rd grade general education classrooms in an inner-city public school. Prior to baseline, the authors measured students’ social and emotional behavior using an adapted version of the Critical Events Index (CEI) in which the
teachers indicated the number of negative behaviors (e.g., “damages property”, “tantrums”) that occurred across their classroom daily. In the baseline condition, both teachers followed their routine classroom behavior management plans, which included posted rules, prompts and warnings, and consequences for misbehavior.

During intervention, the teacher disseminated numbered notecards to each student and then spun a “wheel of chance” to select a number at random. The student holding the number could then choose whether he or she wanted to give or receive a praise statement. When a student gave an appropriate praise statement, a piece of candy or sticker was delivered to the student who made the statement. The PPR session continued until each student in the class was given a chance to make a selection. The authors found reductions in the daily average of negative behaviors with the implementation of PPR in both classrooms. The findings of this study suggest that incorporating PPR into a class-wide positive behavior support system may reduce the number of negative behaviors occurring daily.

In a related study, Moroz and Jones (2002) examined the effects of PPR on the social involvement of three socially withdrawn children. The authors’ main objective was to extend the current research on PPR in a public school setting and explore the effects of PPR with socially withdrawn and isolated children. The participants included three children, aged 7 to 10, attending a public elementary school in the Midwest. The children were identified by their teachers as being socially withdrawn and isolated. The authors measured social involvement, which included engagement or participation in peer interactions during unstructured recess activities.
In the baseline condition, each participant’s social involvement was observed during afternoon recess; teachers were instructed to handle interactions between students in their usual manner. During the PPR condition, the teachers provided a rationale and description of PPR to the class and announced that each day there would be a “star” student, and everyone in the class would have a chance to praise the student’s good behavior. The teachers then outlined the four steps that constituted praise (i.e., “look at the individual, smile, describe what the person said or did, and deliver comments like ‘good job’ to a peer”) and provided the class with examples and non-examples of appropriate praise statements. Each day, the teachers implemented 7 to 10 min PPR sessions between recess and structured academic tasks. The authors found that PPR produced improvements in social involvement during recess for the three participants. The results of this study are promising and further contribute to a body of research supporting the use of PPR to increase social involvement in children with and without disabilities.

**Tootling**

One application of class-wide PPR is tootling; students are encouraged to report the positive behavior of any classmate, rather than that of an individual target student. Tootling was developed to enhance day-to-day social interactions among diverse students and the term was constructed from the word “tattling” and the expression “tooting your own horn” (Skinner et al., 2000). However, unlike tattling, tootling involves students reporting their classmates engaging in positive, rather than inappropriate, behavior. According to Skinner et al. (2000), the tootling program is grounded in the assumption that peers are more likely to observe and comment on socially inappropriate behavior
than provide social reinforcement for instances of prosocial or socially appropriate behaviors. Consequently, the program was designed to alter classroom environments. If teachers can increase the likelihood that students engage in student-helping-student behaviors in the classroom, students may be more likely to attend to and reinforce the behaviors, which then increases the future occurrence of prosocial behaviors.

There are a few studies that have documented the efficacy of tooling interventions in increasing instances of positive peer reporting in the classroom. Skinner et al. (2000) used an ABAB reversal design to examine the effects of a peer-monitored interdependent group-contingency program designed to increase tooling in a general education fourth-grade classroom. Prior to data collection, the authors trained students to identify and report instances of positive behavior; the children also reviewed and then provided examples and non-examples of tooling.

In the baseline condition, students were given index cards and instructed to write down their “tool” throughout the day. At the end of the day, students placed their index cards into a shoebox located on the teacher’s desk. The authors then provided students with information regarding the number of reported tool that day and reviewed examples and non-examples of appropriate “tool.” During the intervention phase, the authors introduced an interdependent group contingency and class-wide publicly posted progress to the class goal. The students were told they must reach 100 tool to receive the reward (i.e., 30 min of extra recess). The results in initial baseline and intervention phases were highly variable and did not demonstrate a clear effect of the intervention on frequency of tool. The authors indicated that a group-oriented punishment procedure by the school principal might have impacted students’ performance in the study.
Cashwell et al. (2001) extended this study by using direct instruction, group reinforcement, and progress feedback to increase students’ reports of peers’ prosocial behaviors. Participants in this study included a teacher and 17 students in a second-grade classroom. The procedures were identical to Skinner et al. (2000); however, the authors expanded their training session to include examples and non-examples of tootling, corrective feedback contingent on errors, and praise contingent on tootles that met the criteria outlined in training. Criteria for a successful tootle included (a) the behavior observed had to be that of another classmate, (b) the classmate had to be helping another classmate, and (c) the behavior had to occur at school. The authors found that the average number of reported tootles increased markedly from baseline to intervention phases (i.e., an average of 15 to 40, respectively).

Cihak, Kirk, and Boon (2009) extended the research on tootling by examining the effects of a class-wide tootling program on disruptive classroom behaviors of elementary students with and without disabilities. The authors used an ABAB research design to determine the efficacy of a tootling intervention on decreasing disruptive behaviors of third-grade students (four with a disability) in a rural elementary school. Procedures were identical to those described above, including group training sessions prior to intervention and the use of an interdependent group contingency to reinforce appropriate tootles. Results demonstrated that the interdependent group contingency was effective in reducing disruptive behaviors in this classroom of third-graders. Results from these studies are promising and represent an important step forward in finding methods to increase positive peer interactions and prosocial behaviors in the classroom.
Token Economies

The efficacy of token economy systems to increase appropriate behaviors and decrease problem behaviors has been well established in the literature (Boniecki & Moore, 2003; Kilmas & McLaughlin, 2007). A token economy is a contingency management system in which individuals earn tokens for engaging in specified behaviors that can later be exchanged for predetermined backup reinforcers (Kazdin, 1977). Token economies can be used with a diverse set of populations, settings, and behaviors (Hackenberg, 2009; Kazdin, 1982; Kazdin & Bootzin, 1972). According to Maggin et al. (2010), there are six defining features of a token economy: (a) systematic linkage of tokens to a menu of meaningful backup reinforcement options, (b) identification of specific target behaviors, (c) identification of symbols (i.e., tokens) to be exchanged for a reward, (d) development of a menu of backup reinforcers to reward appropriate behavior, (e) creation of a protocol for exchanging conditioned reinforcers for backup reinforcers, and (f) development of procedures for fading the use of the token economy system.

Numerous researchers have documented that the use of token economy systems to decrease in inappropriate behaviors in the classroom (e.g., Forston et al., 2005; Kilmas & McLaughlin, 2007; Zlomke & Zlomke, 2003), and increase assignment completion (e.g., Klimas & McLaughlin, 2007), attending behavior (e.g., Tarbox, Ghezzi, & Wilson, 2006), classroom participation (e.g., Boniecki & Moore, 2003), and teacher praise (e.g., Fortson et al., 2005).

For example, Tarbox et al. (2006) used a reversal design to study the effects of token reinforcement on attending behavior of a five-year-old boy diagnosed with autism. In the baseline condition, the participant was prompted to attend to the tutor at the start of each
instructional trial. First, the tutor provided a non-vocal prompt (i.e., alternating between orienting their eye gaze towards the participant, moving their face towards him, and using an isolated finger prompt moving their finger from in front of his eyes to the their eyes) for eye contact. If the participant did not attend, the tutor provided a vocal prompt, “Look at me.” There were no additional prompts for attending and no programmed consequences for attending or not attending. The tutor then delivered task-related instruction during which the participant could earn a 90 s break after each 10 trial teaching session. In the token reinforcement condition, all procedures were identical to baseline except the participant received a token immediately for attending to the tutor after the non-vocal prompt for each trial. The participant needed to earn 10 tokens before exchanging them for access to a 90 s break from instruction. The authors found that the token reinforcement system increased the attending behavior of a young child with autism.

Similarly, Jones, Young, and Friman (2000) used a multiple baseline design to examine the effects of a token reinforcement system and PPR on cooperative statements made during cooperative learning tasks. The participants were three teen-aged students who were placed in a residential treatment facility and identified by their teachers as rejected in social situations by their peers. The authors measured sociometric ratings and cooperative statements.

In the baseline condition, the authors collected data on cooperative statements under normal classroom conditions. The students did not receive any feedback from peers regarding their behavior during cooperative learning groups. During the intervention phase, the authors introduced the students to PPR by telling them that they would be
focusing on peer relations during cooperative learning groups. The students received training on how to give a cooperative statement (e.g., look at the person, smile, report something positive that person did or said, say something like “good job”) and informed the students they would be earning points for each cooperative statement. These points could be exchanged for privileges at school and at home. Results of this study indicated that the token reinforcement system and PPR increased the number of cooperative statements made by all three participants. Overall, the outcomes of these studies demonstrate the efficacy of token economy systems in increasing positive behaviors (e.g., cooperative statements, attending to the teacher) in a classroom setting.

**Purpose of this Study**

Although there is some literature to support the use of positive peer reporting and “tootling” with older elementary aged students (Bowers et al., 2008; Moroz & Jones, 2002; Morrison & Jones, 2002), researchers have not examined the effects of a token economy and tootling intervention on kindergarten students in a general education classroom. Often, an interdependent group contingency is used to increase the number of tootles and decrease instances of disruptive behavior of all children in the classroom. Therefore, the purpose of this study was to examine the effects of a dependent contingency in the context of a token economy on kindergarten students’ tootling behavior. In addition, the author wished to determine the collateral effects of the token economy system on prosocial behaviors.
Chapter 2: Methods

Participants

Participants included two boys, Trevor and Richard, and one girl, Mary, enrolled in an urban public elementary school in the Midwest region of the United States. All three typically developing children were six years of age and attended one of three separate kindergarten classrooms. Each classroom was staffed with one teacher and contained between 25 to 30 children. Prior to recruiting participants, the experimenter asked all three classroom teachers to identify students who would benefit most from an intervention targeted at increasing positive peer reporting (i.e., tootling) and, collaterally, prosocial behavior in the classroom. Specifically, the experimenter asked the teachers to identify students who had a history of negative and disruptive peer interactions or who were considered to be “tattletales.” Each teacher identified three to four students in his or her classroom that met the aforementioned inclusionary criteria. The experimenter then disseminated IRB-approved parental consent forms to the parents whose children were identified by their teachers. Because only two parents agreed to allow their children to participate in the study, the experimenter extended the inclusionary criteria to include any student enrolled in one of the three kindergarten classrooms. Two of the three students, Richard and Mary, who were initially identified by their teachers as benefitting from the intervention, were included in this study. After obtaining parental consent, the experimenter obtained assent from each participant.
Setting

All training sessions were conducted in a separate room located next to the school office. The room contained a table with four chairs and a desk. Data collection during baseline and intervention phases took place in each of the students’ kindergarten classrooms.

Response Definitions and Measurement

The experimenter collected data on tootling and prosocial behavior. Tootling was defined as a public vocal statement of praise as a function of observed occurrences of peers’ positive behaviors. For example, an instance of tootling was recorded if a student said to the experimenter or the teacher, “Jimmy shared his crayons with Taylor!”

Prosocial behavior was defined as any behavior that helped or benefited another classmate. An instance of prosocial behavior was recorded if, for example, students shared their materials, allowed classmates to go first, or asked classmates if they needed help. The experimenter used an event recording procedure to collect data for both behaviors during 30 min observation sessions and recorded a tally mark each time the participant tootled and/or engaged in an instance of prosocial behavior.

Interobserver agreement. Interobserver agreement (IOA) was assessed for at least 33% of all sessions in each of the three phases: baseline, training, and intervention. For both tootling and prosocial behavior, an agreement was defined as both observers recording the occurrence of the behaviors; a disagreement was defined as only one observer recording the occurrence of the behaviors. The experimenter divided the number of agreements by the number of agreements plus disagreements and multiplied by 100.
Mean agreement for tootling and prosocial behavior across phases and participants was 100%.

**Procedural fidelity.** Procedural fidelity was assessed for at least 33% of all sessions during the training and intervention phases. In the training phase, a second observer was provided with a task analysis of the procedure and recorded a correct response each time the experimenter accurately implemented one of the twelve corresponding items prescribed on the sheet. An incorrect response was recorded if the experimenter implemented a step incorrectly. If the experimenter included steps not in the protocol, the second observer would score an incorrect response. Accuracy of implementation was calculated by dividing the number of correct responses during the training session by the total number of responses and multiplying by 100. Accuracy for training was 100%. The procedures to collect fidelity data during the intervention phase were identical to baseline except the observer was provided with a checklist outlining the steps of the intervention. Accuracy of implementation was calculated by dividing the number of correct steps by the total number of steps and multiplying by 100. Mean accuracy for intervention was 100%.

**Experimental Design**

A multiple baseline design across participants (Cooper, Heron, & Heward, 2007) was used to evaluate the effects of a token economy on the tootling and prosocial behavior of three kindergarten students. The experimenter also implemented a reversal with the first participant to strengthen the design of the experiment due to the participant’s stable responding.
Procedures

Preference assessment. Prior to collecting baseline and intervention data, the experimenter conducted a multiple-stimulus without replacement (MSWO) preference assessment (DeLeon & Iwata, 1996) with each child to identify stimuli that may function as a reinforcer. The experimenter chose this preference assessment in order to assess the participants’ preference for a large number of items for the purpose of creating an individualized reward “store” for each participant. This reward “store” was used as a part of the token economy system for rewarding participants’ tootling behavior. First, the experimenter selected 15 items believed to be popular rewards for Kindergarten aged children. The items included the following: Frozen movie stickers, Skylander stickers, puppy stickers, Ninja Turtle temporary tattoos, Spiderman temporary tattoos, Frozen temporary tattoo, Hello Kitty temporary tattoos, finger puppet, pink owl pencils, green sparkle pencils, monster erasers, football erasers, cat erasers, bat erasers, and striped pencils.

The experimenter and the participant sat at a table with only the materials for the assessment available to the participant. The experimenter explained that she was going to ask the participant to choose from a number of items on the table beginning with the item he or she liked most. Prior to beginning the assessment, the experimenter handed a labeled item to the participant; the participant was given 1 to 2 s to interact with the item. The experimenter then placed the 15 items on the table; the items were arranged in rows of three, with five items in each row.

The experimenter initiated the assessment by asking the participant to select his or her favorite item in the array by handing it to the experimenter. Immediately following
the selection of each item, the participant had 5 s to interact with the item as the experimenter discretely rearranged the order of the remaining items. The experimenter continued this process until the participant selected all 15 items. The experimenter conducted two preference assessment sessions prior to baseline and two more sessions before implementation of the intervention.

The results of the 15-item MSWO assessment yielded three distinct categories of rewards. For Trevor, the following items were ranked as highly preferred and placed in the “7+ tootles” category: Hello Kitty tattoos, Frozen tattoos, monster erasers, striped pencils, and green sparkle pencils. The moderately preferred items (“4 to 6 tootles”) included puppy stickers, Frozen stickers, football erasers, bat erasers, and a turtle tattoo. The least preferred items (“1 to 3 tootles”) included finger puppets, Spiderman tattoos, Skylander stickers, cat erasers, and pink owl eraser.

For Richard, the following items were ranked as highly preferred and placed in the “7+ tootles” category: finger puppets, Spiderman tattoos, turtle tattoos, football erasers, and Skylander stickers. The moderately preferred items (“4 to 6 tootles”) included monster erasers, bat erasers, Hello Kitty tattoos, striped pencils, and Frozen stickers. The least preferred items (“1 to 3 tootles”) included Frozen tattoos, green sparkle pencils, puppy stickers, pink owl pencils, and cat erasers.

For Mary, the following items were ranked as highly preferred and placed in the “7+ tootles” category: Frozen stickers, Frozen tattoos, cat erasers, pink owl pencils, and bat erasers. The moderately preferred items (“4 to 6 tootles”) included striped pencils, monster erasers, puppy stickers, Hello Kitty tattoos, and finger puppets. The least
preferred items (“1 to 3 tootles”) included Skylander stickers, football erasers, turtle tattoos, Spiderman tattoos, and green sparkle pencils.

**Baseline.** The experimenter collected baseline data on tootling and prosocial behavior for all three participants following the administration of the first two sessions of the preference assessment. Baseline data were collected during 30 min sessions at various periods throughout the day to obtain a representative sample of participants’ behaviors across different activities and time intervals. All baseline data were collected in each participant’s Kindergarten classroom.

**Training.** After stable responding in baseline had been achieved, each participant began the training phase. The purpose of the training condition was to review the definition of tootling with each participant and to provide examples and non-examples regarding how to tootle in their classrooms. Training sessions were held with each participant separately.

Training sessions consisted of three to four 15 min tootling lessons outside of the classroom, followed by 30 min of data collection in each of the participant’s classrooms. Each training session followed the lesson plan presented below.

**Introduction.** The experimenter told the participants that they would learn about the purpose of tootling and why it was important. The participants were then given examples and non-examples of the behavior. During training, the experimenter gave the participants a checklist outlining the lesson for that day, and together they checked off each item on the list as it was completed.

**Direct instruction.** The experimenter began by asking the participants if they understood what it meant to be a “tattle-tale.” The experimenter told the participants that
“tattling” was telling the teacher something negative or bad that one of their classmates did; she then provided an example of this behavior to the participants. Next, the experimenter told the participants that the opposite of “tattling” is called “tootling”; “tootling” is telling the teacher something positive or good that a classmate did. The experimenter then asked the participants to repeat the definition. Next, the experimenter gave the participants four examples of “tootling” and four non-examples of “tootling” and described why each was or was not an example of the target behavior.

**Guided practice.** The experimenter and participants together brainstormed a list of positive behaviors emitted by the participants’ classmates. To circumvent any difficulties with the development of this list, the experimenter created her own list of behaviors before the session and shared her list with the students if he or she failed to list positive behaviors independently. The experimenter and the participants then viewed a YouTube video of students in a classroom as the experimenter modeled how to tootle. The participants were then asked to view a different YouTube video of students in a classroom during which they were instructed to practice tootling.

**Independent work.** The experimenter gave the participants a piece of paper that she had divided into two columns (i.e., a “tootling” and a non-“tootling” column). The experimenter then presented the participants with a phrase or a situation and asked them to indicate whether it was an example of tootling by pointing to the corresponding column on the worksheet or by emitting the vocal response “yes” or “no.” During the final 5 min of training, the experimenter and participants returned to their classrooms where the experimenter told them that it was “tootle time.” The experimenter provided
a model of how to tootle and then prompted the participants to practice for 5 min in their classrooms.

The experimenter then informed the participants that it would be “tootle time” for the next 30 min. The experimenter collected data on tootling and prosocial behavior during this time. Participants advanced to the next phase once they had demonstrated mastery of the tootling content. Participants met the mastery criteria if they could independently identify three examples and non-examples of tootling via the activity described above and tootled (prompted or unprompted) one time during the 30 min “tootle time” in the classroom. If the participant had not tootled after 15 min, the experimenter inserted a verbal prompt (“Remember, it’s still tootle time!”). However, in order to reflect the participants’ independent responding, prompted tootles were not scored during data collection.

**Token economy system.** The purpose of this phase was to evaluate the effects of a token economy system on tootling. Prior to initiating this condition, the experimenter separated the 15 items from the MSWO assessments into three different categories: One bin of least preferred items for reporting one to three tootles, one bin of moderately preferred items for reporting four to seven tootles, and one bin of highly preferred items for reporting seven or more tootles. At the beginning of the session, participants were given a strip of paper to wear around their wrists. Participants were told that they would receive a tally on the strip every time they tootled to the experimenter. The experimenter created a “store” of rewards for which the participants could exchange tallies at the end of the session. Participants were not allowed to “carry over” tallies from one session to another. During the 30 min sessions, the experimenter continued to collect data on the
number of tootles and instances of prosocial behavior. If the participant had not tootled after 15 min of the observation session, the experimenter inserted a verbal prompt (“Remember, it’s still tootle time!”) The experimenter collected data two to three times a week at various times during the day to accommodate student and teacher schedules.

**Social Validity**

Upon completion of intervention, the experimenter administered a social validity questionnaire to Trevor and Richard. Because Mary dropped out of the study unexpectedly, social validity data for her were not collected. Given that the students in this study were kindergarten aged and had not yet developed reading fluency, the experimenter vocally administered the questionnaire to the students. Both participants indicated “A lot” as their response for the following questionnaire items: (a) How easy was “tootling?” (b) How much did you like earning tallies for “tootling?” (c) How much did you enjoy choosing a toy for how many “tootles” you had?, and (d) How likely is it that you will continue to “tootle” after this study? Richard indicated “mostly” and Trevor indicated “A little” in response to the question “How important do you think it is to “tootle?”
Chapter 3: Results

Trevor

**Reported tootles.** The top tier of Figure 1 depicts the number of tootles and prosocial behavior for Trevor. During baseline and training conditions, Trevor did not report any unprompted tootles. When the token economy was introduced, Trevor’s average number of tootles markedly increased ($M = 8$; range: 2 to 12). The experimenter then implemented a reversal condition during which the number of tootles decreased ($M = 1$; no range). Once the intervention was reinstated, Trevor’s number of tootles again increased to intervention levels ($M = 8$; no range). Examples of Trevor’s tootles included “That student is sitting nicely on the carpet” and “They are sharing the crayons.”

**Prosocial behavior.** In the baseline condition and training phase, Trevor did not engage in any acts of prosocial behavior. When the token economy was introduced, Trevor’s instances of prosocial behavior increased slightly ($M = 2$; range: 1 to 2). During the reversal condition and reimplementation of the intervention, Trevor did not engage in any acts of prosocial behavior. Examples of prosocial acts included sharing crayons with a classmate and offering to help a classmate tie his shoes.

Richard

**Reported tootles.** The second tier of Figure 1 depicts the number of tootles and acts of prosocial behavior for Richard. At baseline, Richard did not report any tootles. During the training phase, Richard’s reports increased slightly ($M = 2.5$ tootles; range: 1 to 3). When the token economy was introduced, Richard’s average number of tootles
further increased ($M = 13; \text{ range: } 2 \text{ to } 30$). Examples of Richard’s tootles included “My friend is doing a great job looking at the teacher,” “My friend is sitting nicely on the carpet,” and “She shared her cookie with you!”

**Prosocial behavior.** At baseline, Richard engaged in one act of prosocial behavior by helping a friend find the correct page during class. During the training phase, Richard did not engage in any acts of prosocial behavior. When the token economy was introduced, Richard engaged in one act of prosocial behavior when he shared his blocks with a classmate with whom he was playing.

**Mary**

**Reported tootles.** The bottom tier of Figure 1 depicts the number of tootles and acts of prosocial behavior for Mary. At baseline, Mary did not report any tootles. During the training phase, Mary’s reports increased slightly ($M = 2.5$ tootles; range: 1 to 3). With the introduction of the token economy system, Mary’s average number of tootles further increased ($M = 6; \text{ range: } 2 \text{ to } 9$). Examples of Mary’s tootles included “My friend is doing a good job working on her paper,” “They are doing a good job raising their hand,” and “He has his eyes on the teacher.” Unfortunately, Mary left school for unknown reasons and the intervention was discontinued after the sixth session of the intervention phase.

**Prosocial behavior.** At baseline, Mary engaged in one act of prosocial behavior by sharing puzzle pieces with a classmate. During the training phase, Mary did not engage in any acts of prosocial behavior. When the token economy was introduced, Mary engaged in one act of prosocial behavior when she offered to help a classmate open her cereal at lunch.
Figure 1. Frequency of tootles and acts of prosocial behaviors per 30 min observation for all participants.
Chapter 4: Discussion

Although numerous researchers have demonstrated the effectiveness of using class-wide positive peer PPR (e.g., “tootling”) programs to enhance social interactions of students, none have focused on the effects of using a token economy system to increase tootles in kindergarten students. Further, researchers have not focused on if a token economy and tootling program has any collateral effects on participants’ prosocial behavior. Overall, the findings of the current study indicate that a token economy system was effective at increasing the number of reported tootles for all participants. Further, social validity data indicated the participants found tootling easy, liked receiving tallies, enjoyed exchanging tallies for small rewards, and were likely to continue tootling in the future. However, the intervention had little impact on the number of prosocial behaviors emitted in the classroom. This finding may be due to environmental factors that will be discussed in the limitation section below.

Limitations and Future Research

The present findings replicate and extend the findings in the literature regarding positive peer reporting, tootling interventions, and token economies in a classroom setting (Ervin, Miller & Friman, 2006; Skinner et al., 2000; Cihak, Kirk & Boon, 2009; Jones, Young & Friman, 2000); however, there are a number of limitations that should be addressed. The first limitation surrounds the setting in which the study occurred. All data collection on tootling and prosocial behavior took place in the participants’ natural
classroom environment. Therefore, the experimenter could not control for extraneous variables that could have affected the participants’ responding.

Each classroom environment presented a number of barriers to reporting peers’ positive behaviors. First, the structure of each classroom and observation session was different. For example, during some observation sessions, the students were required to complete a structured activity, whereas on other occasions, the expectations for student behavior were unclear, or the students were engaged in a less structured activity like “free reading.” During structured activities, the students may have been more likely to attend to the activity or teacher and less likely to attend to the experimenter. This may have led to decreased rates of tootling during these times. On the other hand, during unstructured times, the student may have been more likely to attend to the experimenter, thereby increasing the rate of tootling during those sessions. The experimenter conducted observation sessions throughout different times of the day to facilitate generalization of tootling in the classroom. In the future, however, researchers may wish to conduct sessions during unstructured times during the day to minimize distraction to the students and teachers as well as maximize the students’ opportunities for tootling.

Another limitation of this study surrounds the small effect that the token economy and tootling program had on prosocial behavior. There are a few possible explanations as to why this occurred. First, prosocial behavior was not directly targeted in this study. The experimenter did not provide the participants’ rewards for engaging in prosocial behavior. Second, although examples of prosocial behavior were included in the training session along with identifying positive behaviors in the classroom, all three participants tootled about positive behaviors observed in their peers, rather than prosocial behaviors.
For example, all participants reported when students were “sitting on the carpet nicely,” or “listening to the teacher,” which counted as a tootle because they were reporting a peer engaging in a positive behavior. To address this limitation, researchers should develop a more limited definition of tootling for their participants to include only reporting peers engaging in prosocial behaviors. For example, when teaching examples and nonexamples of tootling, the researcher would include helping, sharing and complimenting as examples that fit the criteria. Further, the researcher should include following school and classroom rules as examples that do not fit the criteria.

Third, there were fewer opportunities for participants to report peers’ engaging in prosocial behavior in the classroom because there were only a few peers engaging in prosocial behaviors. In the present study, none of the classrooms had a reward system in place to reward instances of helping each other or engaging in other prosocial behavior. Further, the students did not receive a reward for engaging in prosocial behavior; they received a reward only for reporting peers’ positive or prosocial behavior. Future research should focus on awarding tokens to students contingent on engaging in prosocial behavior, in addition to reporting peers engaging in prosocial behavior. Future research should also focus on using a token economy to increase students engaging in prosocial behavior in the classroom.

In the current study, although tootling was defined as any public vocal statement of praise as a function of observed occurrences of peers’ positive behaviors, it is possible that other students in the classroom were unable to hear when the participant tootled. Future research could focus on examining a number of ways that tootling may affect students’ prosocial behavior in the classroom. First, how would tootling affect the
prosocial behavior of those reporting the prosocial behavior? Additionally, would there be an effect on those who hear students tootling or are the ones targeted in the positive report? Future research should focus on the effects of a tootling program on students’ prosocial behavior by specifically examining the differences in those who hear praise statements versus those who make them.

Another limitation in the current study surrounds the lack of data collection on participants’ tattling behavior. The experimenter collected data on number of tootles and instances of prosocial behavior because the intervention aimed to increase these behaviors. Prior to beginning data collection, the teacher identified participants as those who tattled at a higher frequency than other students in their classroom. However, the experimenter was unable to confirm those reports due to a lack of data collection on participants’ tattling behavior. Future research should examine the effects of a token economy and tootling program on students’ tattling behavior.

An additional limitation of this study surrounds the failure to collect social validity data from the three kindergarten classroom teachers. Schwartz and Baer (1991) suggest that social validity be assessed not only with direct consumers (i.e., the participants) but also indirect consumers (i.e., teachers, support staff) who might adapt the intervention in their classroom. Although the experimenter shared the results of the study with each teacher, she failed to develop a measure of the teachers’ satisfaction with the goals, procedures, and effects of the token economy on their students’ tootling and prosocial behavior. Future researchers should develop social validity questionnaires to assess if teachers felt that increasing positive peer reporting in their classroom was important, if they felt a token economy was feasible to implement in their classroom.
without the experimenter present, and if they had observed any differences in the participants after the intervention was withdrawn.

One final limitation of this research surrounds the low frequency at which positive and prosocial behaviors were occurring in two of the classrooms. In these classrooms, the teachers implemented punishment procedures for not following classroom rules more frequently than praising or offering rewards for positive or prosocial behavior. This demonstrates that the teachers may not make rewarding positive behaviors a priority in their classrooms. Consequently, the students may not have had a rich history of reinforcement associated with these behaviors (or with recognizing them in their peers). This is a limitation because the classroom environment may have decreased the frequency of positive behaviors for participants to tootle about, thereby decreasing tootling throughout the study. Future research should focus on class-wide interventions aimed at shaping the teacher’s praise behavior along with the participants’ tootling and prosocial behavior.

Another direction for future research on tootling and prosocial behavior in the classroom would be to examine if there is a correlation between teacher praise and students’ prosocial behavior. In the current study, the experimenter did not observe the classroom teachers providing praise contingent on students engaging in prosocial behavior. Research has demonstrated that teachers’ use of contingent praise effectively increases a variety of appropriate behaviors including following directions (Goetz, Holmberg, & LeBlanc, 1975), engagement in instruction (Broden, Bruce, Mitchell, Carter, & Hall, 1970) and on-task behavior (Ferguson & Houghton, 1992). Future researchers should examine the effects of teacher praise contingent on students’ engaging
in prosocial behaviors in the classroom and determine if there exists a correlation between teacher praise and prosocial behavior.

**Conclusion**

The study adds to the existing research on using token economies in the classroom and demonstrates how a token economy can be used to increase peer reporting. This intervention could be especially beneficial for teachers who report that they wish to increase their students’ positive or prosocial behaviors in the classroom. If implemented as a class-wide intervention, a token economy could also be used to reward positive behaviors in a classroom, which can increase tootling if there are more positive or prosocial behaviors about which to tootle.

This study was conducted in an urban elementary school in classrooms in which a punishment-based classroom management system was used. One implication of this research is the effectiveness of using a token economy to increase an appropriate or desirable behavior. The study demonstrated how a token economy was effective in increasing tootling which many would consider an appropriate behavior. This is an important finding for classrooms that may implement classroom management strategies based on penalizing inappropriate behaviors rather than rewarding positive or prosocial behaviors.
References


APPENDIX A

TRAINING TREATMENT FIDELITY
**Tootling Training Fidelity Checklist**

| Introduction | ☐ The researcher will tell the participant that during the first training session they will be learning about what tootling is, why it’s important, and be given examples and non-examples of each.  
☐ Provides student checklist for day’s lesson and check off items as completed |
| Direct Instruction | The researcher begins by:  
☐ Asking the student if they know what being a “tattle-tale” is. The researcher tells the participant that “tattling” is telling the teacher something negative or bad that one of their classmates did. The researcher gives an example of tattling.  
☐ An example of tattling: John is drawing all over the tables.  
☐ The opposite of “tattling” is called “tootling”. “Tootling” is telling your teacher something positive or good that one of your classmates did (Ask the student to repeat what tootling is). The researcher gives an example of “tootling”.  
☐ An example of “tootling”: Richard just helped his classmate find the right page in the book.  
☐ The researcher presents the student with a number of examples and non-examples of “tootling” and explicitly instructs the participant as to why each is or isn’t an example of tootling. |
| Guided Practice | ☐ The researcher and participant brainstorm a list of positive things that their classmates could do in the classroom (researcher will have a list of things already observed to use in... |
case the participant is unable to generate things).

- The researcher models how to “tootle” when they see one of those positive behaviors occurring in a classroom setting (from a YouTube video of students in a classroom).
- The participant watches another YouTube video and practices tootling about students in a classroom.

### Independent Work

- The researcher presents the participant with two columns (tootling and not tootling). Given a phrase or situation, the student must point to whether it is tootling or not on the worksheet. Participants can give either verbal or pointing responses.
- For the final five minutes of training, the researcher and participant will return to the participant’s classroom and the researcher will tell the participant it is “tootle time”. The participant will practice “tootling” in their natural environment. The researcher will provide a model for “tootling” and ask the student to demonstrate “tootling”.

<table>
<thead>
<tr>
<th>Case the participant is unable to generate things.</th>
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</thead>
<tbody>
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</tr>
<tr>
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</tbody>
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APPENDIX B

TRAINING LESSON PLAN
DIRECT INSTRUCTION

Examples of Tootling:
1. Sasha shared her crayons with me!
2. Dante is doing a good job listening to the teacher
3. Michelle is sitting nicely on the carpet.
4. Charles let Tanya go 1st in line!

Non-Examples of Tootling:
1. Dana is eating the wrong thing for lunch.
2. Marcus is a meanie!
3. Natalia is wearing an ugly shirt.
4. Trayden isn’t doing his work.

GUIDED PRACTICE

Positive Things in the Classroom

☐ Following Directions
☐ Sharing materials (crayons, pencils, papers, glue)
☐ Listen to the teacher when called on
☐ Answers questions correctly
☐ Play nicely with classmates
☐ Raising your hand to be called on
☐ Sitting on the carpet criss-cross applesauce

INDEPENDENT WORK

Tootling or Not?

☐ Mary is doing a good job on her art project.
☐ Brad is being a meanie to Joshua.
☐ Sarah shared her book with Hayden.
☐ Taylor isn’t following directions.
☐ Patty is sitting in the wrong chair.
☐ Ashley raised her hand to answer the teacher’s question.

Percentage Correct: ____________________

5 minute training in classroom
APPENDIX C

TRAINING STUDENT CHECKLIST
Tootling Lesson Checklist

☐ Intro - what are we talking about today

☐ Tattling vs. Tootling

☐ Examples and Non-examples of Tootling

☐ What are some positive things you see in the classroom?

☐ Practice tootling with YouTube videos

☐ Column activity

☐ Tootle time in classroom
APPENDIX D

TRAINING INDEPENDENT WORK
<table>
<thead>
<tr>
<th>Tootling</th>
<th>![No Tootling]</th>
</tr>
</thead>
<tbody>
<tr>
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APPENDIX E

INTERVENTION FIDELITY CHECKLIST
Experimenter gives the participant a paper bracelet.

Experimenter tells the participant “It’s tootle time! When you tell that one of your classmates has done something positive, you will get a tally mark on your bracelet. At the end of tootle time, we will count your tallies and you can choose a reward.”

Experimenter shows the participant the “reward store” and shows the participant each level of reward based on the number of tootles reported.

Experimenter records a tally on the participant’s bracelet when the participant tootles.

If the participant doesn’t tootle within 15 minutes of “tootle time” the researcher provides a prompt to the participant “Remember, it’s still tootle time! When you tell me that one of your classmates has done something good, you will get a mark on your bracelet. At the end of tootle time, we will count your tallies and you can choose a reward.”

After 30 minutes, the experimenter tells the participant that “tootle time” is over and counts the tallies on the bracelet.

The participant chooses a reward from the appropriate category.

If no tootles were reported, the experimenter says, “You didn’t tootle today, so there is no reward.”
APPENDIX F

SOCIAL VALIDITY QUESTIONNAIRE
Social Validity Questionnaire

I am going to ask you five questions about the study we did together on “tootling”. When I ask you the question, I want you to tell me your answer based on the following scale (repeat the scale after each question):

<table>
<thead>
<tr>
<th>1 = Not at all</th>
<th>2 = A little</th>
<th>3 = Mostly</th>
<th>4 = A lot</th>
</tr>
</thead>
</table>

1. How important do you think it is to “tootle” (when you say something positive another student did)?

2. How easy was “tootling”? 

3. How much did you like earning tallies for “tootling”?

4. How much did you enjoy choosing a toy for how many “tootles” you had?

5. How likely is it that you will continue to “tootle” after this study?