March 2018

Effects of Point Visibility on On-Task Behavior and Preference in the Caught Being Good Game

Yudelkis Fuste
University of South Florida, fusteyudelkis@gmail.com

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Effects of Point Visibility on On-Task Behavior and Preference in the Caught Being Good Game

by

Yudelkis Fuste

Thesis submitted in partial fulfillment
of the requirements for the degree of
Master of Science
Department of Child and Family Studies
College of Behavioral and Community Sciences
University of South Florida

Major Professor: Andrew Samaha, Ph.D, BCBA-D
Kwang-Sun Cho Blair, Ph.D, BCBA-D
Sarah Bloom, Ph.D, BCBA-D

Date of Approval:
March 21, 2018

Keywords: interdependent group contingencies, appropriate behavior, schools, caught being good game

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Dedication

Mami, gracias por siempre estar a mi lado y apoyarme en todo lo que hago. Gracias por tu amor, por tu cariño, y por todas las cosas que me has enseñado. Gracias por nunca dejarme sola cuando eh tenido miedo. Todo lo que hago siempre es por ti.
Acknowledgments

I would like to acknowledge my thesis committee members, Dr. Kwang-Sun Cho Blair and Dr. Sarah Bloom, for their commitment to my academic success. I would also like to acknowledge Cynthia Livingston, Haley Paulish, and LeAnn Avila for their never-ending support during the data collection process. Thank you for keeping me sane and motivated. Lastly, I would like to acknowledge my advisor, Dr. Andrew Samaha, who made this study possible. Thank you for all your feedback, and for allowing me to learn so much from you.
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Abstract

The Caught Being Good Game (CBGG) is a classroom management intervention used in schools. The purpose of this study was to evaluate the effects of point visibility on appropriate behavior, to examine the degree to which points earned by the opposing team affected the other team’s behavior, to examine both teacher and student preference for the intervention, the effect of student and teacher choice on appropriate behavior, and to systematically replicate previous research showing the effectiveness of the CBGG relative to business as usual. Consistent with previous research, CBGG increased on-task behavior compared to business as usual. Modest and temporary differentiation was observed between salient and hidden points, with hidden resulting in slightly better outcomes. A unit-price analysis further supported that on-task behavior was higher during the hidden points condition. The teacher and students reported preference for the CBGG, and we expect to see higher levels of on-task behavior during the student-choice condition.
Introduction

Inappropriate behavior occurs often in school classrooms (Westling, 2010). Due to this, teachers spend a great amount of time addressing this behavior, which takes away from instructional time and reduces learning for the students involved and their peers in the classroom (Chafouleas, Volpe, Gresham, & Cook, 2010; Public Agenda, 2004; Westling, 2010). To provide teachers with support, applied behavior analysis (ABA) researchers developed individualized interventions based on the function of the behavior (Baer, Wolf, & Risley, 1968; Scott, Nelson, & Zabala, 2003). However, a great criticism of these individualized interventions is they usually require a lot of time and effort from the teachers (Tingstrom, Sterling-Turner, & Wilczynski, 2003). To address this issue, and make treatment of inappropriate behavior more feasible in school settings, interventions using group contingencies were developed (e.g., Hansen & Lignugaris/Kraft, 2005; Thorne & Kamps, 2008).

Group contingencies use behavioral principles to manage the behavior of multiple individuals (Litow & Pumroy, 1975). These can be broken down into three categories: independent group contingencies, dependent group contingencies, and interdependent group contingencies (Litow & Pumroy, 1975). Interdependent group contingencies involve applying the same contingency to all group members, with reinforcement delivered contingent on group performance (Litow & Pumroy, 1975). In recent years, a popular game based on this type of group contingency, the Good Behavior Game (GBG), has been effective in multiple settings and across multiple behavior (Donaldson, Vollmer, Krous, Downs, & Berard, 2001; Joslyn, Vollmer, & Hernandez, 2014).
First introduced by Barrish, Saunders, and Wolf (1969), the GBG focuses on decreasing inappropriate behavior in classrooms. The game is typically conducted by splitting the classroom is split into groups and teams acquire points contingent on inappropriate behavior. The goal of the game is to have fewer points than the opposing team in order to obtain a reinforcer (Barrish et al., 1969). Kleinman and Saigh (2011) implemented the game in a typical ninth-grade classroom. An ABAB reversal design was used to assess the effects of the GBG on three target responses: talk or verbal disruption, aggression or physical disruption, and seat leaving. The results indicated all targets decreased when the game was implemented and maintained in follow-up. Although there is a large body of literature demonstrating the effectiveness of the GBG (e.g., Dondaldson et al. 2011; Kleinman & Saigh, 2011; McCurdy, Lannie, & Barnabas, 2009; Nolan, Houlihan, Wanzek, & Jenson, 2014), it also suggests the game might lead to the bullying of students that break the rules (Tingstrom, Sterling-Turner, & Wilczynski, 2006). To address this issue, a similar game with a positive variation was developed.

The Caught Being Good Game (CBGG) has a very similar structure to the GBG. The classroom is divided into multiple teams, and the rules of the game are explained to the students. However, points are delivered contingent on appropriate behavior instead of problem behavior, and the team with the most points receives the reward. Results of the CBGG are very similar to those of the GBG, decreasing inappropriate behavior while simultaneously increasing appropriate behavior in classrooms (e.g., Wahl, Hawkins, Haydon, Marsicano, & Morrison, 2016; Wright & McCurdy, 2012). Wright & McCurdy (2012) compared the effects of the GBG and CBGG in two elementary school classrooms. They trained teachers to implement both games, and assessed the effects of the games through an ABAC design. During the GBG phase, points were assigned contingent on inappropriate behavior. The team(s) with less points than a
pre-set mystery criterion received a reward. Teams were also rewarded if their total weekly points were less than a weekly criterion. During the CBGG, points were assigned contingent on appropriate behavior, and teams had to meet or exceed a mystery criterion. Points were then exchanged for rewards. Teams also earned a reward if their total weekly points exceeded the weekly criterion. Results showed both games decreased inappropriate behavior and increased appropriate behavior. Additionally, teacher acceptability of the two games was assessed using the *Intervention Rating Profile (IRP-15)*, which ranges from 15 (worst) to 90 (best) (Martens, Witt, Elliott, & Darveaux, 1985). One teacher rated the GBG higher than the CBGG, and the second teacher rated the CBGG higher. The ratings of the games ranged from 68-78 points, meaning both teachers found the games acceptable, but there was room for improvement (Wright & McCurdy, 2012).

More recently, Wahl et al. (2016) implemented both games in four elementary classrooms. Points were assigned contingent on inappropriate behavior during the GBG, and contingent on appropriate behavior during the CBGG. The results of the study are consistent with those of Wright & McCurdy (2012). Both games decreased inappropriate behavior, and increased appropriate behavior across classrooms. Acceptability of the interventions was assessed using a 3-point scale questionnaire (Ehrhardt, Barnett, Lentz, Stollar, & Reifin, 1996; Martens, Witt, Elliott, & Darveaux, 1985). Results showed that teachers found both interventions acceptable. However, the use of a 3-point scale questionnaire might constitute a step away from more sensitive measures like the IRP that could make it difficult to identify procedural changes that improve acceptability. Given that Wright and McCurdy (2012) obtained scores showing that the acceptability of CBGG could be improved, future researchers should continue to use sensitive measures of acceptability, and ideally measures that predict actual use. One approach
that might be better at predicting actual use might be to provide the teacher with repeated choices between using the intervention and business as usual.

But choice itself has also been shown to affect the effectiveness of interventions to reduce problem behavior (Romaniuk & Miltenberger, 2011). When teachers have a choice to use preferred strategies, this might improve inappropriate behavior in the classroom, and make the intervention more contextually fit (Ennis, Blair, & George 2015). Providing students with choices might also lead to a denser schedule of reinforcement. Students might pick a task that is easier, or that they are likely to excel at, in order to receive a reinforcer (Morgan, 2006).

Research demonstrated that the CBGG is effective at decreasing inappropriate behavior, and increasing appropriate behavior in classrooms. However, no research exists that identifies specific components of the game that make it most efficient. For example, it is unknown how teachers determine the specific criteria needed for teams to earn reinforcers. Some studies report using a mystery criterion (e.g., Theodore, Bray, Kehle, & Jenson, 2001; Wright & McCurdy, 2012) while others simply state who chose it (McCurdy et al., 2009). This creates a changing and unpredictable criteria for reinforcement, which might discourage losing teams early on in the game, leading to an increase in problem behavior. In some variations of the game, points are assigned privately while in others the points are tallied on the board (Joslyn et al., 2014; Kleinman & Saigh, 2011; Wahl et al., 2016). The effects of teacher and student choice have also not been assessed in the CBGG. Assessing these components of the game could lead to identifying a more efficient, effective, and socially valid implementation of the CBGG.

Therefore, the primary purpose of the current study was to evaluate effects of point visibility on appropriate behavior. A secondary purpose was to examine the degree to which points earned by the opposing team affected the other team’s behavior. A third purpose was to
examine both teacher and student preference for the intervention and the relation between them using both direct (choice) and indirect (IRP-15) assessments. A fourth purpose was to examine the effect of student and teacher choice on appropriate behavior. The final purpose was to systematically replicate previous research showing the effectiveness of the CBGG relative to business as usual.
Method

Participants and Setting

Participants included one teacher and three students from a general education 6th grade classroom at a middle school in Florida. The school was a Tier I school, and 48% of the student body was eligible for free lunch. It was reported that School-wide Positive Behavior Support (SWPBS) had been implemented on and off for the last 10 years. The teacher, Linda, was a 49-year-old white female. She was certified in elementary education (K-6), and Exceptional Student Education (ESE). Tina was a 12-year-old white female at the time of the study. Chris was an 11-year-old Asian male, and Vanessa was an 11-year-old white female. The students met criteria to participate in this study if they engaged in problem behavior that interfered with their learning in the classroom as well as their peers’, and could benefit from an intervention to increase appropriate behavior and decrease problem behavior in the classroom. The parents were provided with information about the study as well as the principal investigator’s contact information. If the parents chose to allow their child to participate, the parent was given an informed consent form to sign. Once consent was obtained, the participant was included in the study.

Response Definitions

The primary dependent variable, appropriate behavior, was defined by the principal investigator with approval by the teacher before the start of the study. A student was considered to engage in appropriate behavior if they raised their hand to ask for teacher permission, manipulated an object for intended use (e.g., phone to use calculator), followed directions within
10 s of presentation, sat in a way that allowed to look at the board, and the chair they sat on had all four legs on the ground. Inappropriate behavior was defined as the absence of appropriate behavior.

Session Protocol and Materials

The CBGG had eight parameters (see Table 1). We determined values for these parameters based on a conversation with the teacher at the start of the study. The parameters included how often the teacher observed the students (teacher observation schedule), game duration, how often the game was played (game schedule), team membership, and how often a winner was determined (exchange schedule). The teacher observation period was based on a variable time schedule (VT-2.5 min). The game was played one to two times per day, one to four days per week, and the average game/session duration was 18 min (range, 13-20 min). The exchange schedule chosen by the teacher was after the class period. The teacher also decided that the team with the most points would win the game regardless of how many points they earned (some previous research has included a minimum number of points). In the case of a tie, each team was declared a winner and received the back-up reinforcer. Printed data sheets with operational definitions were used every session, a teacher data sheet was used during the hidden points condition, a poster with the CBGG rules for the students to read was in the classroom, and a MotivAider® was used to let the teacher know when it was time to scan the classroom.
Table 1. Parameters of the Caught Being Good Game.

<table>
<thead>
<tr>
<th>Game Parameters</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Game Schedule</td>
<td>2 times per day, 1-4 days per week</td>
</tr>
<tr>
<td>Game Duration</td>
<td>20 min</td>
</tr>
<tr>
<td>Teacher Observation Schedule</td>
<td>VT-2.5 min</td>
</tr>
<tr>
<td>Exchange Schedule</td>
<td>After class period</td>
</tr>
<tr>
<td>Teacher-Choice Session</td>
<td>Session #: 34, 25</td>
</tr>
<tr>
<td>Student-Choice Sessions</td>
<td>Session #: 36, 37</td>
</tr>
<tr>
<td>Set Criterion Per Session</td>
<td>The team with most points wins the game. If</td>
</tr>
<tr>
<td></td>
<td>teams tie, they each receive a back-up</td>
</tr>
<tr>
<td></td>
<td>reinforcer.</td>
</tr>
<tr>
<td>Team Membership</td>
<td>Teams will change at the beginning of every</td>
</tr>
<tr>
<td></td>
<td>week.</td>
</tr>
</tbody>
</table>

**Data Collection.** Each session was divided into equal 20-s intervals and data was recorded using a time sampling whole-interval recording procedure for appropriate behavior, and
a time sampling partial-interval recording procedure for inappropriate behavior (Cooper, Heron, & Heward, 2007). Data collectors were provided with the response definitions and were trained on data collection procedures before the onset of the study. The training included reviewing the operational definitions with the principal investigator, as well as going over examples and non-examples of the target behavior. Although all students in the classroom participated in the game (unless they stated they didn’t want to play the game that day), data was only recorded for students whose parents had turned in a signed consent form.

**Inter-observer Agreement.** Inter-observer agreement (IOA) was calculated for 25% to 50% of all sessions across conditions. Point-by-point agreement was calculated by dividing the number of agreements by the number of agreements plus disagreements and multiplying it by 100 (Kazdin, 2011). An agreement was scored when both independent observers scored the same response within each interval. During the first baseline (Phase A), IOA was calculated for 40% of the sessions. Average IOA was 88.5% (range, 87%-90%). IOA for the first intervention condition (Phase B) was calculated for 25% of sessions. Average IOA was 98%. For the second baseline (Phase A), IOA was calculated for 50% of all sessions, with an average of 96% (range, 94%-98%). IOA was calculated for 25% of all sessions during the second intervention condition (Phase B). Average IOA was 91% (range, 84%-97%). IOA has been calculated for 50% of all sessions during Phase C. Average IOA is 93%. This will be updated as data continues to be collected.

**Design and Procedures**

This study used a reversal with an embedded multielement design to answer five questions. The primary purpose of this study was to compare effects of visible and hidden points on appropriate behavior. This effect was evaluated in a multielement design during Phase B of
the experiment. A second purpose was to examine teacher and student preference for the CBGG with and without visible points, and business as usual. Preference was evaluated across multiple choice opportunities during Phase C. A third purpose was to examine how points earned by the opposing team affected appropriate behavior in the losing team, and whether differences were obtained across the visible and hidden points conditions. Rather than manipulating the points earned by the opposing team, we examined this question by performing a unit-price analysis of the data obtained during Phase B. Forth, the effects of student and teacher choice on effectiveness were examined in a multielement design in Phase C. And finally, an ABAB design was used to show the effectiveness of the CBGG relative to business as usual.

Stimulus Identification. High-preferred items were identified by verbally surveying the students in class before the beginning of the study. Students were allowed to raise their hand, and state what back-up reinforcers they wanted to earn for winning games. This procedure was repeated every 16 intervention sessions. Examples of back-up reinforcers included chips, Gatorade, ice-cream, donuts, chocolate, and candy (See Appendix 6).

Social Validity. Social validity was assessed in four ways. First, a teacher-choice versus student-choice condition was included in the intervention to assess if teachers and students would choose to play the game when the option not to was available. Second, the teacher was provided with a modified version of the Intervention Rating Profile (IRP-15) (see Appendix 1) (Martens et al., 1985). The higher the score on the IRP-15, the more acceptability the intervention had. This was compared to the teacher-choice results of the intervention to assess if there were similarities between selection during the teacher-choice condition and teacher’s ratings of the game, as well as with IRP scores reported in previous studies. Third, students also received a similar questionnaire to determine if they liked playing the game (see Appendix 2),
and it was compared to the student-choice results. Last, parents received an opinion survey (see Appendix 3) to assess if they had noticed any changes on their child’s behavior card (see Appendix 5) after the intervention was implemented. Behavior cards provided information about overall behavior change (i.e., comparison to baseline), and change in behavior from the previous week (i.e., change from last week). They were sent home at the beginning of every week following the first week of data collection.

Data Preparation. A demand graph was used to conduct a unit-price analysis. Unit-price was calculated using a 5-session moving average and dividing it by the number of reinforcers earned (games won) in those five sessions. An aggregate demand graph was used to depict all the unit prices and the corresponding number of reinforcers during the salient versus hidden points condition.

Experimental Phases

Training. Training was conducted during a meeting with the teacher. During the meeting, the teacher was provided with a list of necessary steps to implement the game, as well as examples and non-examples of what those steps looked like. The teacher also had the opportunity to ask any questions. To assure the training was effective, treatment fidelity checks were conducted approximately for 20%-30% of all sessions across conditions. Treatment fidelity never fell below 100%.

Baseline (A). During this condition, the teacher conducted the lesson as she typically would. This included the use of worksheets, PowerPoints, and group activities. She delivered verbal reprimands when students engaged in inappropriate behavior, and occasionally delivered tokens for appropriate behavior. The students were able to trade the tokens in for rewards at the
school store once a week. Rewards from the school store included a variety of items such as chips, juice, pencils, and school shirts.

**Comparison of Salient Versus Hidden Points (B).** The teacher divided the class in three teams and the participants of the study were evenly distributed to make sure each team was as likely to win the game. Team membership changed at the beginning of every week, with the exception of week seven. Before beginning the game, the teacher wrote the names of the teams in one corner of the board, and stated the rules of the game. During the game, the teacher scanned the classroom according to the observation schedule (see Table 1). Once the MotivAider® vibrated, she assigned a point to the teams if all members of the team were engaging in appropriate behavior at that moment. Depending on the day, the teacher wrote the points each team earned on the board (salient) or on a data sheet students did not see (hidden). The team with the highest amount of points for that session won the game and received a back-up reinforcer at the end of the class period. If there was a tie, each team received a back-up reinforcer.

**Teacher-choice Versus Student-choice (C).** This condition was similar to the salient versus hidden points condition, with the exception that each day the game was played, the students or teacher decided if the points were salient, hidden, or if they preferred not to play the game (business as usual). During student-choice days, the teacher counted the number of students for and against playing the game. If the majority of the class decided not to play the game, that period was conducted as a typical lesson.
Results

Figure 1 depicts the class average percent intervals with on-task behavior. During baseline (Phase A), data were variable and stable. Once CBGG was introduced (Phase B), there was an increase in on-task behavior, but no differentiation between the salient and hidden points conditions was observed. We then reversed back to baseline (Phase A), and saw on-task behavior decrease approximately to initial baseline levels. Once we moved back to Phase B, and implemented the CBGG for the second time, there was an increase in on-task behavior during the hidden points condition, and not during the salient points condition. There was differentiation between both data paths, however, as we continued to implement the CBGG, the data became less differentiated, but on-task behavior remained high during both conditions.

Figures 2, 3, and 4 depict outcomes for Tina, Chris, and Vanessa, respectively. Generally, group outcomes matched individual outcomes with the following exceptions. Tina engaged in high levels of on-task behavior during the first two phases of the intervention. Following a reversal back to baseline, on-task behavior decreased. Once the game was reintroduced during Phase B, there was differentiation between the salient and hidden points conditions, with hidden points resulting in higher levels of on-task behavior. The differentiation decreased with continued exposure to the phase.

Unit-Price Analysis. Figure 5 shows the average number of games won in 5-game blocks in both the hidden and salient conditions as a function of price (the number of points earned in that 5-game block). Unlike typical reinforcement-based interventions that use fixed or announced response requirements, the response requirement for a win in CBGG is determined by
the behavior of the opposing team. That makes response requirements in the CBGG unpredictable because they change both during and across games, and those changes are unannounced in the hidden condition. Because such schedule arrangements have rarely been evaluated, it is important to understand the effects of changes in price on student outcomes. Moreover, very few interventions evaluations include examinations of changes in response requirements. Therefore, examination of the CBGG represents a unique opportunity to study changes in response requirements in situ.

The data in Figure 5 show decreases in games won as a function of increases in price. Data were fitted the exponential equation proposed by Koffarnus, Franck, Stein, and Bickel (2015) using a pre-defined template for GraphPad Prism 7.0 (Reed, 2016). The R-squared values were 0.3095 and 0.424 for the salient and hidden points conditions, respectively. Comparison of the best-fit demand curves suggests wins in the hidden condition are less elastic (shifted to the right) relative to wins in the salient condition. This shift shows that during the hidden points condition students were willing to engage in slightly more on-task behavior to win.

Social Validity. The teacher completed a modified version of the Intervention Rating Profile (IRP-15) (Martens et al., 1985). She rated the CBGG 85 points (possible range, 15-90). All three participants filled out a questionnaire to assess if they liked playing the CBGG. The average rating of the intervention was 18.7 (possible range, 4-20). Two out of three parent opinion surveys were returned to the principal investigator. One parent agreed they observed a positive change in their child’s take-home behavior card after the CBGG was implemented. The second parent’s rating indicated they were undecided about a change on their child’s take-home behavior card. This study is currently on-going and as data is collected, we will further analyze if
there is correspondence between ratings of the game, and teacher and student-choice during Phase C.

**Figure 1.** Class average of percent intervals with on-task behavior.

**Figure 2.** Percentage of intervals showing on-task behavior for Tina.
Figure 3. Percentage of intervals showing on-task behavior for Chris.

Figure 4. Percentage of intervals showing on-task behavior for Vanessa.
Figure 5. The demand curve shows aggregated data for all participants during Phase B of the study.

Figure 6. The bar graph shows percentage of selection for both the teacher and students.
Discussion

This study sought to answer four questions: 1) To evaluate the effects of point visibility on on-task behavior, 2) to examine the degree to which points earned by one team affected the other team’s behavior, 3) to examine both teacher and student preference for the intervention, 4) assess the effect of student and teacher choice on appropriate behavior, and 5) to systematically replicate previous research showing the effectiveness of the CBGG relative to business as usual.

With respect to the first question (the effects of point visibility on on-task behavior), class average data showed no consistent differentiation between the salient and hidden points conditions during the first introduction of the game, but there was an immediate increase in on-task behavior, which replicates previous research on the effectiveness of CBGG (e.g., Wahl et al., 2016; Wright & McCurdy, 2012). However, when the game was introduced for the second time, on-task behavior was higher during the hidden points condition, and differentiation between the conditions decreased as we continued to implement the CBGG. Although on-task behavior remained high during both hidden and salient-points conditions, it did not reverse back to the previous levels observed during the first introduction of the game. Individual participant data showed a similar pattern.

The second question was answered using a unit-price analysis of the data obtained during Phase B. The demand graph showed that students paid a higher price for the same amount of reinforcers during the hidden points condition. It is possible the behavior of one team affected the behavior of the other teams. That is, given that the students did not know the game scores,
they were more likely to stay on-task if they observed other students engaging in appropriate behavior.

Teacher and student preference for the intervention was examined through social validity questionnaires, and in Phase C. The results of the social validity questionnaire indicated the teacher gave the CBGG a score of 85 (range, 15-90) and average student rating of the intervention was 18.7 (range, 17-20). Further analysis will be conducted once more data is obtained during Phase C to assess if there is correspondence between social validity results and teacher and student choice during the choice conditions (Phase C). The effects of teacher and student choice on appropriate behavior will also be assessed.

The effects of point visibility on on-task behavior furthered extended the literature by systematically analyzing the differences between conditions in a multielement design. Although previous studies have demonstrated the effectiveness of the game, it is unknown what specific components of the intervention make it effective. While the CBGG is very similar to the GBG, it focuses on appropriate behavior, and is therefore better accepted in schools (Wright & McCurdy, 2012).

The unit-price analysis extended the literature by providing a behavioral-economic approach to analyze the data. Although the class average data for appropriate behavior did not show much differentiation between salient and hidden points conditions, the demand graph indicated students were more on-task during the hidden points condition. Price elasticity of demand might also be a useful way to compare interventions. Identifying interventions in which appropriate behavior shows greater elasticity might lead to greater effectiveness for students, greater generality, and higher acceptance from teachers.
Although the current study extended previous literature by assessing the effects of point visibility and using a behavioral-economic approach, there are several limitations worth noting. First, there was a small number of participants. It is possible that a different effect would have been observed across classrooms if more students and teachers had participated in the study. Second, as per teacher choice, group membership changed every week. This potentially decreased on-task behavior when students were part of a team with peers they liked compared to when they were part of a team with peers they were not friends with, or vice versa. Changes in team-membership are a possible explanation for the variability seen in the data. Third, during week seven of the study, the teacher decided she did not want to assign new teams. This added inconsistency to the implementation of the intervention. Fourth, during the salient points condition, some students made negative comments when their team was losing the game. However, during the hidden points condition, students asked the teacher for their game scores. The teacher usually redirected the students back to their work, but this took time from teaching the lesson. Finally, it was observed that when students won multiple back-up reinforcers, they sometimes shared them with students on the non-winning teams. It is possible students’ sharing resulted in social contingencies that influenced their responding during the game. Conversely, it is possible there was a decrease in motivation to engage in on-task behavior during the game for students on the non-winning team when they were given access to the back-up reinforcers from their peers on the winning team.

In addition to addressing these limitations, future research should continue to apply a behavioral-economic approach to identify highly elastic interventions. This would lead to more generalization, higher intervention acceptability, and greater intervention effectiveness. During the study, team-membership changed every week, and it is possible this was a confounding
variable. Team membership should be systematically analyzed to identify its effect on on-task behavior. It is possible that participants will be on-task for longer periods of time if they get to choose their team members. More follow-up data should also be collected to assess generalization effects specifically to the CBGG. Lastly, students received the back-up reinforcers for both games at the end of the class period. Research should compare the effects of immediate reinforcement (access to back-up reinforcers delivered after each session) versus the effects of delayed reinforcement (access to back-up reinforcers delivered at the end of the class period).
References


Appendices
Appendix A: Social Validity Questionnaire for Teachers

Social Validity Checklist: Modified Intervention Rating Profile-15 (IRP 15)

Adapted from the IRP-15 Copyright, 1982. Brian K. Martens & Joseph C. Witt

Please circle the number that best describes your agreement or disagreement with each statement using the scale below.

1= Strongly disagree 2= Disagree 3= Slightly disagree 4= Slightly agree 5= Agree 6= Strongly agree

1. This was an acceptable intervention for the problem behavior engaged in by targeted students in my class.
   1 2 3 4 5 6

2. Most teachers would find this intervention appropriate for behavior problems in addition to those described.
   1 2 3 4 5 6

3. This intervention proved effective in changing the overall problem behavior for targeted students in my class.
   1 2 3 4 5 6

4. I would suggest the use of this intervention to other teachers.
   1 2 3 4 5 6

5. The problem behavior was severe enough to warrant use of this intervention.
   1 2 3 4 5 6

6. Most teachers would find this intervention suitable for the behavior problems in their class.
   1 2 3 4 5 6

7. I would be willing to use this intervention in the classroom setting with other students.
   1 2 3 4 5 6

8. This intervention did not result in negative side effects for children in my class.
   1 2 3 4 5 6

9. This intervention would be appropriate for a variety of children and classrooms.
   1 2 3 4 5 6

10. This intervention was consistent with those I have used in classroom settings.
   1 2 3 4 5 6
11. This intervention was a fair way to handle the problem behavior in my classroom.
   1 2 3 4 5 6

12. This intervention was reasonable for the behavior problems in my classroom.
   1 2 3 4 5 6

13. I liked the procedures used in this intervention.
   1 2 3 4 5 6

14. This intervention was a good way to handle the problem behavior in my classroom.
   1 2 3 4 5 6

15. Overall, this intervention was beneficial for the students in my classroom.
   1 2 3 4 5 6
Appendix B: Social Validity Questionnaire for Students

Please read each statement about the Caught Being Good Game and circle the answer you agree with most.

1. The Caught Being Good Game made class more fun.
   5  4  3  2  1
   Strongly Agree  Agree  Undecided  Disagree  Strongly Disagree

2. The Caught Being Good Game helped me stay focused and on-task during class.
   5  4  3  2  1
   Strongly Agree  Agree  Undecided  Disagree  Strongly Disagree

3. I liked being rewarded for my good behavior.
   5  4  3  2  1
   Strongly Agree  Agree  Undecided  Disagree  Strongly Disagree

4. I will like to keep playing this game even after the study is over.
   5  4  3  2  1
   Strongly Agree  Agree  Undecided  Disagree  Strongly Disagree
Appendix C: Social Validity Survey for Parents

Please read the following statements and choose the answer that mostly resembles your opinions.

1. Did you receive a behavior card for your child?
   
   Yes      No
   
   If you answered yes to the previous question, please fill out the survey.

2. I noticed a positive change on my child’s take-home behavior card after the Caught Being Good Game was implemented.

   5  4  3  2  1

   Strongly Agree  Agree  Undecided  Disagree  Strongly Disagree

3. There was no change on my child’s take-home behavior card after the Caught Being Good Game was implemented.

   5  4  3  2  1

   Strongly Agree  Agree  Undecided  Disagree  Strongly Disagree

4. I noticed a negative change on my child’s take-home behavior card after the Caught Being Good Game was implemented.

   5  4  3  2  1

   Strongly Agree  Agree  Undecided  Disagree  Strongly Disagree

Signature: __________________

Date: ___________________
Appendix D: Data Sheet

Date: ___/___/___ Start time: _______ End time: _______ Observer(s): _______

Academic Period: ____________ Session #: ________

**Inappropriate behavior** will be scored any time a student talks out of turn, manipulates an object for non-intended use (e.g., looking at phone, twirling pencil), talks to peers, does not follow directions within 10s of presentation, puts their head down in a way that does not allow to look at the board, stands up from chair without teacher permission, and rocks their chair in a way that two of the legs are not touching the ground. Score using a **partial-interval recording** method.

**Appropriate behavior** will be scored any time the student raises their hand to ask for teacher permission, manipulates an object for intended use (e.g., phone to use calculator), follows directions within 10s of presentation, is sitting in a way that allows to look at the board, and the chair they’re sitting on has all four legs on the ground. Score using a **whole-interval recording** method.

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<th>Participant 1</th>
<th>Participant 2</th>
<th>Participant 3</th>
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**Legend**

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<td>19:41-20:00</td>
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</tr>
</tbody>
</table>
Participant 1
Inappropriate Behavior: # of int. =__/__ (___%)
Appropriate Behavior: # of int. =__/__ (___%)

Aggregate Data
Inappropriate Behavior: # of int. =__/__ (___%)
Appropriate Behavior: # of int. =__/__ (___%)

Participant 2
Inappropriate Behavior: # of int. =__/__ (___%)
Appropriate Behavior: # of int. =__/__ (___%)

Participant 3
Inappropriate Behavior: # of int. =__/__ (___%)
Appropriate Behavior: # of int. =__/__ (___%)
Behavior Card

<table>
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<tr>
<th></th>
<th>Appropriate behavior</th>
<th>Inappropriate behavior</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comparison to Baseline</td>
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<td></td>
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<tr>
<td>Change From Last Week</td>
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</tbody>
</table>

Your child's behavior improved this week!
Your child's behavior is doing better overall!

Definitions

- **Inappropriate behavior:** any time a student talks out of turn, manipulates an object for non-intended use (e.g., looking at phone, twirling pencil), talks to peers, does not follow directions within 10s of presentation, puts their head down in a way that does not allow to look at the board, stands up from chair without teacher permission, and rocks their chair in a way that two of the legs are not touching the ground.

- **Appropriate behavior:** any time the student raises their hand to ask for teacher permission, manipulates an object for intended use (e.g., phone to use calculator), follows directions within 10s of presentation, is sitting in a way that allows to look at the board, and the chair they’re sitting on has all four legs on the ground.
Appendix F: List of Back-Up Reinforcers for the CBGG

1. Gatorade
2. Capri Sun juice
3. Ice-cream cups
4. Pencils
5. Assorted gum
6. Chocolate: Hershey’s, Butterfinger, Dove
7. Candy: Flavored lollipops, Life Savers, Starburst
8. Donut holes
9. Chips: Doritos, Cheetos, Takis, Lays
10. Popcorn
11. Goldfish crackers
Appendix G: USF IRB Approval Letter

10/17/2017

Yudelkis Fuste
CFBH-Child and Family Behavioral Health
3950 Rocky Circle B-121A
Tampa, FL 33613

RE: Expedited Approval for Initial Review
IRB#: Pro00031813
Title: Effects of Point Visibility on On-Task Behavior and Preference in the Caught Being Good Game

Study Approval Period: 10/16/2017 to 10/16/2018

Dear Ms. Fuste:

On 10/16/2017, the Institutional Review Board (IRB) reviewed and APPROVED the above application and all documents contained within, including those outlined below.

Approved Item(s):
Protocol Document(s):
Protocol Version #1

Consent/Assent Document(s)*:
Child Assent Form Version #1.pdf
Combined Consent Version #1.pdf
Teacher Consent Form Version #1.pdf

*Please use only the official IRB stamped informed consent/assent document(s) found under the "Attachments" tab. Please note, these consent/assent documents are valid until the consent document is amended and approved.

It was the determination of the IRB that your study qualified for expedited review which includes activities that (1) present no more than minimal risk to human subjects, and (2) involve only procedures listed in one or more of the categories outlined below. The IRB may review research through the expedited review procedure authorized by 45CFR46.110 and 21 CFR
56.110. The research proposed in this study is categorized under the following expedited review category:

(7) Research on individual or group characteristics or behavior (including, but not limited to, research on perception, cognition, motivation, identity, language, communication, cultural beliefs or practices, and social behavior) or research employing survey, interview, oral history, focus group, program evaluation, human factors evaluation, or quality assurance methodologies.

**Children as Participants (45 CFR 46, Subpart D)**

**Research Involving Children as Subjects: 45 CFR §46.404**
This research involving children as participants was approved under 45 CFR 46.404: Research not involving greater than minimal risk to children is presented.

**Requirements for Assent and/or Permission by Parents or Guardians: 45 CFR 46.408**
Permission of one parent is sufficient.

Assent is required of all children.

As the principal investigator of this study, it is your responsibility to conduct this study in accordance with IRB policies and procedures and as approved by the IRB. Any changes to the approved research must be submitted to the IRB for review and approval via an amendment. Additionally, all unanticipated problems must be reported to the USF IRB within five (5) calendar days.

We appreciate your dedication to the ethical conduct of human subject research at the University of South Florida and your continued commitment to human research protections. If you have any questions regarding this matter, please call 813-974-5638.

Sincerely,

[Signature]

John Schinka, Ph.D., Chairperson
USF Institutional Review Board
Appendix H: Pasco County Letter of Support

Pasco County Schools
Kurt S. Browning, Superintendent of Schools
7227 Land O' Lakes Boulevard • Land O' Lakes, Florida 34638

Accountability, Research, and Measurement
Peggy Jones, Ph.D., Director
813/794-2338  727/774-2338
352/524-2338  Fax: 813/794-2118
e-mail: pegjones@pasco.k12.fl.us

August 21, 2017

Yudelkis Fuste
Department of Child and Family Studies
c/o Alexa Neal
13301 Bruce B. Downs Blvd.
MHC 2113A
Tampa, Florida 33612

Dear Yudelkis Fuste

Attached you will find an approval for your research study in Pasco County Schools
entitled, "Effects of Point Visibility on On-Task Behavior and Preference in the Caught
Being Good Game."

The purpose of this study to further examine the point visibility on improvements in
classroom behavior in the Caught Being Good Game (CBGG). A secondary purpose is to
examine the degree to which points earned by the opposing team affect the behavior of the
other team. A third purpose is to examine both teacher and student preference for the
interventions in a condition in which both choose whether to play the game or not, and if
so, whether points will be visible or not.

We are always interested in the outcome of research conducted in our school system. When
your study is complete, please forward a brief summary of your findings to the Office for
Accountability, Research, and Measurement.

Best of luck as you pursue the subject of your research.

Sincerely,

Peggy Jones, Ph.D., Director
Office for Accountability, Research, and Measurement

/sg Attachments

xc: All Principals

(813) 794-2000 • (352) 524-2000 • (727) 774-2000 • www.pascoschools.org
Part III
Attach to this application:

- Research proposal that includes the purpose, statistical and design methodology, and benefit to the district.
- All research instruments
- IRB approval, if applicable
- A one-page letter or summary that can be shared with principals describing the tasks that will be required of teachers, students, or schools.

One (1) copy of the final report, thesis, dissertation, or study results with an executive summary must be submitted to the Office for Accountability, Research, and Measurement no later than one month after submission of the document to the sponsoring institution/agency.

Further, I understand and will abide by the laws related to protection of human subject rights and privacy. I will maintain confidentiality of all records, and I will destroy and eliminate any reference to school, district, or individual identity.

Signed by: [Signature]

7/13/2017

Researcher’s Signature

Date

For Office Use Only

Grant: [Yes/No]

Denied: [Yes/No]

Date: [Date]

Conditions, if any:

Signature of Peggy Jones, Ph.D., Director for Accountability, Research, & Measurement

Note to Researcher: When seeking approval at the school level, a copy of your approval letter MUST be shown to the school principal.

Return the completed application and required documentation to by email (pejones@pasco.k12.fl.us) or postal mail to:

Peggy Jones, Ph.D., Director
Accountability, Research, and Measurement District School Board
Pasco County
7227 Land O’ Lakes Blvd.
Land O’ Lakes, Florida 34638