The Effects of Check-In-Check-Out in Reducing Externalizing Behaviors in Young Children

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Abstract

Targeted interventions, or Tier II interventions, are implemented within a comprehensive three-tiered system of support (Response to Intervention Model) consisting of Tier I interventions (for all students), Tier II interventions (for students exhibiting mild behavioral difficulties), and Tier III interventions (for students requiring individualized support). Check-in-check-out (CICO) is a targeted group, Tier II intervention designed to reduce frequency of disruptive/problem behavior and increase prosocial behaviors, mainly in the school setting. The current study evaluated effects of a school's implementation of CICO with five kindergarten level students in reducing their problem behaviors.
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A positive learning environment is crucial for students to achieve academic success. In order to be effective in supporting a positive learning environment for all students, a continuum of positive behavior supports should be put in place. Many schools have a long standing practice of using punishment (e.g., suspension, detention) to discipline students; however, these punishment measures are not effective. Research has shown that “punishment-oriented approaches to classroom control and school discipline remain ineffective and are often counterproductive” (Sugai & Horner, 2008, p. 68). Moreover, punishment was said to be associated with increased tension between students and school staff, students’ defiant, antisocial behaviors and youth violence, as well as lower academic performance in students (Elliot, Hamburg, & Williams, 1998). As a result, many schools have begun to implement an alternative approach to regulate student behaviors, which is to provide students with positive behavior supports. The Response to Intervention (RTI) model is one way to provide a system of positive behavior supports. RTI includes providing high quality instruction or intervention that matches the needs of students. It also provides guidance to students in terms of regulating their behaviors. When the RTI model is implemented with fidelity, students with learning and behavioral difficulties are identified early, so that educators can intervene with specialized instruction to promote students’ overall school success.

The RTI continuum of services range from less intensive to more intensive, and that includes general education and special education populations (Crone & Horner, 2010). A triangle is often used to illustrate the three tiers in the RTI model. This model categorize positive behavioral support in three different levels: Tier I (primary tier) intervention, which is the bottom part of the triangle, represented school-wide positive behavior support strategies, where every student in the school receive the same intervention. Approximately 80% of students would benefit from the primary-level interventions. Tier II (targeted-group) interventions are designed for students whose behaviors are
not responsive to the primary tier interventions, which can be represented in the middle part of the triangle. Approximately 15% of students would benefit from the interventions from this tier level. In other words, they are at-risk for developing a problem behavior, or are showing some signs of difficulty (Simonsen, Myers, & Briere, 2011). Tier III interventions are for students engaging in severe problem behaviors, who need more intensive interventions (Crone & Horner, 2010). It is shown as the top part of the triangle, which represent the 5% of students who would benefit from these intensive interventions.

The RTI model was endorsed in the 2004 reauthorization of the Individuals with Disabilities Education Improvement Act (IDEA 2004). It had been shown to be effective in assisting struggling students in the school setting, both behaviorally and academically (Barton & Stepanek, 2009). The RTI model started gaining popularity since IDEA 2004 indicated it as an alternative means to identify students with specific learning disabilities (Whitten, Esteves, & Woodrow, 2009). This model was first associated with special education. However, the interest of applying it to the general student population had grown in recent years. Prior to the rise of the RTI model, schools had always relied on using the intelligence(IQ)-achievement discrepancy approach in identifying students with learning disabilities, which had been viewed as one of the biggest reasons in the rising of special education and costs (Fuchs & Fuchs, 2006). Moreover, the discrepancy model represents students must fall significantly behind, before they can obtain additional supports. In the RTI model, teachers are encouraged to identify at-risk students and provide them additional supports that they need, before the students fail academically (Fuchs & Fuchs, 2006). It is also encouraged that school personnel focus on maximizing the ability of general education classrooms to meet the needs of individual students (Barton & Stepanek, 2009). Students who struggle in the general education classroom are not automatically labelled as students with learning disabilities. All other explanations of their struggles need to be ruled out before students are considered to have a specific learning disabilities. Moreover, teachers utilize frequent progress monitoring, using a brief
standardized achievement test, to monitor student’s academic progress (Fuchs & Fuchs, 2006).

Because the use of the RTI model can assist in reducing the number of students identified with learning disabilities, which may reduce the costs associated with educating students with learning disabilities, financial resources can be used for improving the quality of education for all students (Whitten et al., 2009). A school district in Washington State began a tiered academic instruction program in 2002 and had experienced great success in reducing special education referrals (Barton & Stepanek, 2009). Special education referrals in that school district dropped and regular education enrolment increased. In addition, the school district witnessed an increase of their students passing the reading and writing portions of the state assessment test (Barton & Stepanek, 2009).

The success of the RTI model in reducing learning disabilities had led researchers to pursue the same methods in responding to social and behavioral difficulties that some students faced. It provided guidelines to school professionals in delivering appropriate behavioral support to students (Hawken, Vincent, & Schumann, 2008). Just as the RTI model could be used to identify and remediate at-risk academic problems in students, it could also be used to identify and remediate students at-risk of developing problem behavior. At the Tier I level of interventions, all students were presented with a set of universal schoolwide expectations (e.g. be safe, be respectful, self-control) in an attempt to teach them to self-regulate their behaviors. The vast majority of students were expected to benefit from this tier of intervention (about 80%). However, students who were unresponsive to Tier I interventions would be identified as at-risk and provided with additional supports to regulate their behaviors at the Tier II level (About 15%). These interventions were slightly more intensive than Tier I interventions. When a small group of students were unresponsive to this tier of the interventions (about 5%), they were then provided with more intense and highly individualized interventions at the Tier III level. Tier II interventions served as a gateway of intervening a potential problem behavior and preventing it from further escalating, which could
negatively impact the student’s ability to learn and succeed in school. Therefore, it was important to ensure that Tier II interventions are as effective as possible in catching the problem behaviors in students.

Tier II behavioral interventions provided school personnel important information in regards of their students’ school progress, such as preventing students with at-risk behaviors from developing high-risk behaviors. The implementation of Tier II interventions was similar across students, and all school staff was trained on the intervention implementation. This tier of intervention was also constantly available and was easy to be accessed. In other words, the interventions in Tier II were easy to be implemented and less intensive than those in Tier III. Furthermore, it was consistent with schoolwide expectations, and data were collected and used continuously to monitor progress on the intervention (Crone, Hawken, & Horner, 2010).

There are numerous behavioral interventions available to be implemented at the Tier II, Targeted-group intervention level. One of those interventions is called Check in Check out (CICO), also known as a Behavior Education Program (Hawken & Johnston, 2007). The CICO program is a program in which a student checks in with designated adult(s) several times during a school day, on a daily basis. The adult and the student meet in the morning to develop behavioral goals for that particular day. The student carries around a point card which provide many opportunities for behavioral feedback from adults throughout the day. The severity level of the behavior is then reviewed with the designated adult at the end of the day using the point card. The card is then sent home to the parent to sign and return to the school (Filter et al., 2007). This is also great way to enhance the communication between families and schools in an effort to reduce the likelihood of students developing a more severe behavior.

Filter et al. (2007) mentioned that there were several goals of CICO. Firstly, it is used to increase reinforcement for appropriate behaviors. Second, it is used to increase contingent adult feedback. Third, it is implemented to enhance the daily structure for the students throughout the
school day, as well as improve feedback to families about the program behavior.

A traditional CICO program involved students (a) checking in with facilitator in the morning, (b) receiving feedback from teachers throughout the day, (c) checking out with the facilitator, (d) bringing the daily report home for parents to sign, and (f) returning the report to school. Sworzowski (2014) provided three suggestions to adapt the CICO procedures to accommodate some students' needs. The first suggestion was to provide an additional check-in(s) component during the day. Depending on the intensity and frequency of the problem behaviors, a student might require more frequent contact with the facilitator in order to receive support and attention needed to maintain appropriate behaviors. Secondly, determining the function of the problem behavior was also important. Reinforcement could be adapted to match the determined function (Swozowski, 2014). Ideally, a complete Functional Behavioral Assessment (FBA) would be able to pinpoint the function of the behavior. However, completing a FBA was often time-consuming and sometimes labor intensive. Thus, a brief functional assessment interview (FAI) was recommended (Swozowski, 2014). The FAI could be conducted using the Functional Assessment Checklist for Teachers and Staff (FACTS) or the Preliminary Functional Assessment Survey (PFAS). A third suggestion was to address a setting event. Swozowski (2014) mentioned that in the case of a student being unresponsive to CICO, a specific class period or event could have been a catalyst for the occurrence of problem behavior (e.g., Increase problem behavior in Gym class). The student might go “off track” for the rest of the day. Therefore, it was suggested that the class or event be identified and a plan to address the setting event could be developed to counteract the negative impacts of that setting event for the specific students. The plans could be as simple as adding a discussion with the student at check-in time, or developing some self-control strategies to use when in need (Swozowski, 2014).

A growing body of research had suggested CICO to be one of the most effective and recognized targeted interventions in reducing the frequency of problem behaviors (Crone & Horner,
2010; Filter et al., 2007; Hawken & Johnston, 2007). Due to the increasing demand for positive behavior support in schools, CICO becomes a useful intervention.

The effectiveness of CICO is documented and viewed as an extension of home-school notes (Campbell & Anderson, 2011). It is designed to reduce problem behaviors within an academic setting. It also acts as a supplement to Tier I interventions by providing more instructions regarding expected behaviors. CICO also helps reduce problem behaviors by increasing structural contact between students and teachers at school, as well as opportunities for reinforcement in contingent on the exhibition of expected behaviors (Campbell & Anderson, 2011). Studies had examined the effectiveness of RTI in decreasing office discipline referrals (ODRs), which are some indicators of students' behavioral change in schools (Todd, Campbell, Meyer, & Horner, 2008). The number of ODRs, or the number of problem behavior incidents, is typically an indirect measure of behavioral change. More direct measures can be found in teacher reports, interviews, and direct behavioral observations of the students in the program.

Todd et al. (2008) examined the functional relationship between the implementation of CICO and the reduction of problem behaviors in an elementary school setting. The implementation was carried out by school personnel in a general education school setting. The participants of the study were four elementary school-age boys with documented patterns of problem behaviors. A functional behavioral assessment and direct observation were conducted in order to determine the severity of the problem behaviors, and the data were used as baseline data. Initial data suggested that attention-seeking was the primary function of their behaviors. Baseline and CICO implementation were the two phases in the study. The frequency of Office Discipline Referrals (ODRs) was used as a measurement during the course of the study. During the intervention phase, the students checked in with the school personnel five times a day and brought home the point cards to their parents to sign (Todd et al., 2008). Results of the study demonstrated promising results. All of the participants had shown significant decrease in their frequency of problem behaviors. The
researchers determined CICO was effective due to the increase in appropriate behavior, or reduction of problem behavior.

Hawken and Johnston (2007) pointed out the importance of putting interventions in place to prevent severe behavioral problems in young children, particularly pre-schoolers. This article utilized a case example to illustrate how a CICO program could be implemented with a pre-school aged student. The student was identified to participate in CICO due to his acting out behavior, such as pinching peers, having tantrums during transitions and not following directions. It was noted that students do not have to engage in severe problem behavior before receiving supports. The key was to intervene and stop the behavior early (Hawken & Johnston, 2007). A Daily Progress Report was completed by his classroom teacher daily for 5 days. Behavioral goals were stated on the DPR, such as “say nice things or no things to other people,” “follow adult directions the first time” and “keep my hands, feet, body, and objects to myself.” His classroom teacher was to rate the student’s performance on those behavioral goals in different settings (e.g. circle time, learning center, recess etc.) using a happy face, neutral face or a sad face. Baseline data were gathered for 5 days prior to the start of the intervention, and a determination of a realistic goal for the student was then made. This student checked in with the teacher’s aide before school started each day as well as at the end of the school day, to tally up the total points earned. Hawken and Johnston (2007) stated that the long-term influence of challenging behaviors might be very significant if they are not addressed early on. Results of this case example indicated that CICO showed a positive trend in reducing problem behavior in preschool students (Hawken & Johnston, 2007). The results are very promising.

Simonsen et al. (2011) examined the difference between the use of CICO with an urban middle school's standard practice (SP), in decreasing Tier II students' off-task behaviors. Forty-two participants that were in general education were enrolled in this randomly assigned, pretest-posttest control group experiment. Prior to the intervention, direct observations were conducted, and ODR
data were obtained. Teachers of the participants were asked to complete the Social Skill Rating System (SSRS), which is a rating scale of students' problem behavior severity, social skills and academic competence. In addition, a researcher obtained a copy of the Functional Assessment Checklist for Teachers and Staff (FACTS) for each participant to document the function of the off-task or other problem behaviors (Simonsen et al., 2011). Prior to the start of this study, the school principal selected a “Behavior Education Program (BEP) team,” which was composed of members with behavioral expertise. The BEP team developed a daily behavior progress report that documented the schoolwide expectations, number of points a student could earn for following the stated expectations during each class period, and the personal behavioral goal of each student. Written prompts were also developed for teachers and parents to share positive comments about the student's behavior (Simonsen et al., 2011). The duration of the study was 6 weeks. The intervention group received the CICO intervention and the control group received the school's standard practice, which was to refer the student to the special education department when their behavior became very severe. The students then underwent a psycho-educational evaluation to determine the likely cause(s) of the behavior; special education services, such as counseling services, were then provided to students to lessen the problem behavior. During the 6-week intervention period, students in the experimental group met with their designated BEP coordinator at the beginning and the end of each school day. They discussed what their personal goal was for that particular day (number of points expected to be earned). Students who met their goal would receive reinforcement of their choice. Intervention data were collected during and immediately following each student's participation in the assigned condition, using the same measures in the pre-test phase. Empirical evidence provided in the study indicated that targeted-group CICO intervention is significantly more effective in decreasing off task behaviors than the typical school intervention approach (Simonsen et al., 2011). The researchers also implied that the ODRs that were resulted from such behaviors could be reduced following the implementation of CICO as a Tier II intervention.
Hawken, O'Neil, and MacLeod (2011) examined the impact of CICO on different functions of the problem behavior in an elementary school setting. The pre-post quasi-experimental design looked at the effectiveness of CICO in 17 elementary school students in terms of the functions of their problem behavior. The span of the study lasted a whole school year. The study concluded that CICO was effective for the majority of the participants in reducing problem behavior, which was measured by the reduction in office discipline referrals (Hawken et al., 2011). The researchers also concluded that CICO was most effective across multiple functions of behaviors that the students exhibited (Hawken et al., 2011). However, it was noted that parental feedback was a weakness in the study. The finding of weak parental feedback contradicted with results from previous research, which indicated that CICO was not as effective when implemented on students with escape or peer-maintained function of behaviors, when compared to attention-maintained behaviors (Campbell & Anderson, 2008; McIntosh, Campbell, Carter, & Dickey, 2009). McIntosh et al. (2009) indicated that students with attention-maintained behavior significantly improved behaviorally, when compared to participants with other functions of behavior. It was concluded that teacher-identified function predicted the response of the participants in regards of the CICO intervention (McIntosh et al., 2009).

Turtura, Anderson, and Boyd (2014) used an ABAB reverse design to evaluate the effects of academic behavior CICO (ABC) intervention at a middle school. This ABC intervention was for students whose problem behavior was maintained by avoidance of academic tasks or class activities. Examples of problem behaviors were disruptive behavior in classroom, not completing class work, and not completing homework. Three participants were included in the study, who were in grade six, seven and eight respectively. Two participants were referred by their classroom teachers and one participant was referred by his parent. A complete FBA was conducted for each participant. Prior to the start of the intervention implementation, baseline data were collected. Teachers, participants and their parents attended a training seminar with the ABC coordinator.
Behavioral expectations and the ABC intervention were reviewed, as well as the reinforcement that participants could obtain (Turtura et al., 2014). During the intervention phase, if participants did not complete assignments or avoided certain academic tasks, they would be given a pass to visit the "Opportunity Room," where they could spend some time completing the assignments or tasks. Participants were able to use this pass during a non-academic period that same school day (Turtura et al., 2014). This was aimed to provide participants with an opportunity to complete missed assignments. Results of the study suggested that the ABC intervention might be an effective intervention for students exhibiting problem behavior during academic tasks or activities. The study demonstrated that ABC intervention resulted in reductions in problem behavior in all three participants, as well as increases in accuracy and completion rate in both in-class work and homework (Turtura et al., 2014).

Much of the research regarding the implementation of the CICO intervention focused on externalizing behaviors; however, Hunter, Chenier, and Gresham (2013) evaluated the effects of CICO on students with internalizing behavior problems. Students with internalizing behaviors were often overlooked by school staff when compared to students with externalizing disorders, as they were not directed outwardly (e.g., physical aggression and conduct problems). Internalizing behaviors are directed inward and individuals with these behaviors were trying to control their internal emotions or thoughts to an excessive and atypical extent (Hunter et al., 2013). Examples of these internalizing behaviors included poor self-esteem, social withdrawal, depression and anxiety. Four participants were included in the study, and aged from nine to eleven. All participants were in the general education setting and received no special education services. Baseline data were collected; three participants showed increasing trend of internalizing behavior and one participant showed a decreasing trend of the internalizing behavior. During the intervention phase, the participants received feedback from adults (psychology graduate student) assigned to them, throughout the day regarding the internalizing behaviors that they displayed through CICO. The
participants were encouraged to perform positive, socially desirable behaviors, as well as to identify negative thinking patterns and replacing them with positive and productive thoughts (Hunter et al., 2013). This was achieved through the thought-sharing and discussion of the participants' daily behavioral point achievement at the end of a day. The goal of the discussion among the individual participant and the adult was to encourage positive thinking and thoughts, to prepare them for the next day. All four participants demonstrated an increase in daily behavioral points earned throughout the study, which indicated that the participants' internalizing behaviors had reduced, thus suggested that CICO was an effective intervention for reducing internalizing behaviors (Hunter et al., 2013).

Dart, Furlow, Collins, Brewer and Gresham (2014) investigated the effectiveness of CICO that is mediated by peers on internalizing behaviors of elementary school students. Although an abundance of research has demonstrated the effectiveness of CICO when the facilitators are adults, it may not always work out that way in reality due to limited resources. Two 5th grade students were trained to implement the CICO under the supervision of an adult intervention specialist. The participants who underwent the CICO intervention were three 1st and 2nd graders. In this study, the intervention was effective for two out of three students. The results of the study demonstrated peer-mediated CICO may be an effective targeted-group intervention for students at risk of internalizing disorder, particularly when resources are limited. The results also added the evidence that CICO could be implemented with flexibility in addressing behavior problems in school at a targeted level of support (Dart et al., 2014).

Researchers also investigated the implementation of this intervention for students with disabilities and in special education settings. Bergman (2009) examined the effects of CICO Tier II intervention on six junior high students receiving special education services, ranging from sixth to eighth grade. They qualified for special education services by meeting eligibility criteria in a learning disability, emotional disturbance, or both. The targeted problem behaviors were punctuality
and preparedness, work completion, as well as attentiveness and participation during classroom instruction and activities (Bergman, 2009). The study lasted a total of six weeks, of which baseline data of targeted behaviors were collected during the first two weeks. The intervention was implemented at the beginning of the third week and continued to be collected on a daily basis. Participants checked in with a research facilitator in the morning and afternoon. They received a daily progress report (DPR) and obtain feedback from their reading, English and Math teachers throughout the school day. Parents also received notification of weekly student performance. A token economy system was in placed to positively reinforce students who meet their individual goals in terms of points earned, remembered to bring the DPR back with parent signature, as well as remembered to show teachers their DPRs. Results of this study indicated that the CICO intervention was effective for all participants in reducing the targeted problem behaviors. CICO appeared to be a resourceful method of intervention for special education students with a learning disability, emotional disturbance, or both (Bergman, 2009).

Previous research indicated the effectiveness of CICO in the academic settings for students with off-task and other problem behaviors, other researchers also examined its effectiveness in emotional or behavioral disorders (E/BD) in alternative education as well as residential settings. Students with E/BD were reportedly the most likely of all disability groups to require supports in alternative education (AE) setting (Swoszowski, Jolivette, Fredrick, & Heflin, 2012). These students required a lot of supports, including highly structured classroom management, an emphasis on positive-behavior management, as well as inclusion of adult mentors, function-based assessment and social skills instructions (Swoszowski et al., 2012). CICO naturally became one of the choices of intervention to help students with E/BD. Researchers recruited 6 students in grade 6 through 9 to participate in the study from an urban residential facility for students with E/BD. The participants' problem behaviors were identified as being maintained by either adult attention or escape from demands. Each participant was paired with one CICO facilitator (a teacher) for school and a house
facilitator (a housing staff/supervisor) for the home portion. Baseline data were collected prior to the CICO intervention. Results indicated that 4 of 6 students responded positively to CICO, as indicated by the decreased episodes of problem behaviors. The study indicated that students with attention-maintained behaviors may be more responsive to CICO than students with escape-maintained behaviors (Swoszowski et al., 2012). However, CICO might still be largely effective in residential AE settings for problem behaviors with these aforementioned functions. Students with escape-maintained behaviors might be motivated by the meeting with facilitators as it delayed the start of their morning work prior to school and counseling session, homework times and/or chore after school, thus fulfilled the escape function. The one-on-one adult attention embedded in CICO was reinforcing for students with attention-maintained behaviors (Swoszowski et al., 2012).

The long-term goal of a Tier II behavioral intervention, such as CICO, is to make the students want to maintain the positive behavior after the intervention has been faded. In order to examine students' instinct motivation in reducing their problem behaviors, Miller, Dufrene, Olmi, Tingstrom and Filce (2015) examined the possibility of using students self-monitoring skills as a way to fade the CICO intervention. Four elementary school-aged participants were recruited to participate in the ABAB withdrawal design study. Baseline data were collected and tangible reinforcement were determined with the input of students. Initially the study followed steps of a traditional CICO intervention (i.e. Check in with a facilitator, receive teacher feedbacks, check out, obtain parent signature on report and return report to school). When participants' problem behaviors showed a steady decreasing trend, CICO was withdrawn (Miller et al., 2015). However, researchers instructed teachers to discretely rate participants' behaviors, but not to provide feedback to the participants. When problem behavior began an upward trend once again, CICO was re-implemented in the same manner as the first implementation. When problem behavior was observed to occur less than 20% or less for five consecutive days, self-monitoring was introduced. Participants were trained on the self-monitoring procedures prior to the beginning of the study (Miller et. al., 2015).
Participants completed the Daily Behavioral Report Cards for themselves, but unaware that the teachers initially continued to complete the report cards as well, to determine if the point goal was met and if the ratings were in agreement. Results of the study indicated that self-monitoring as a component of CICO is a promising and viable option, as tall participants exhibited a decrease in frequency of problem behaviors (Miller et al., 2015).

A similar study conducted by Miller, Dufrene, Sterling, Olmi, and Bachmayer (2015) evaluated the use of CICO to increase academic achievement and reduce problem behaviors. It also involved a fading process. Three participants were included in the ABAB withdrawal design. There were to check in with designated adults throughout the day and record behavioral points earned in the Daily Behavioral Report Cards. Baseline data were collected and reinforcement was determined based on participants’ feedback. Researchers then introduced the Mystery Motivator (MM) as a first fading method, which was an envelope that the participants could earn if a decreasing trend of their problem behavior was observed. The envelope contained slips of paper marked with an “M,” indicating a reward, or an “X,” indicating no reward (Miller et al., 2015). Throughout the first fading phase, three of five slips indicated that a reward was available. A self-monitoring fading technique was introduced when the frequency of students’ problem behavior continued decreasing. Students were asked to complete the daily behavioral report card for themselves. Results of the study indicate that MM and self-monitoring successfully maintained behavioral performance for two of the three students during the fading process (Miller et al., 2015). In general, the study showed that CICO was effective in reducing problem behavior, as well as increasing academic engagement for all participants.

Many studies have demonstrated the effectiveness of CICO in decreasing students’ problem behaviors that have and do not have disabilities at various educational settings time and time again, as well as with different kinds of individuals implementing the intervention. However, like any other intervention strategies or programs, CICO is not without its flaws. First, CICO is subjective in
terms of if the student obtains an approval (checks, points or smiley faces on the point card) from school personnel/adults throughout the day. In other words, the consistency of the implementation is not always met (Filter et al., 2007). Second, CICO could also be time-consuming at times and human resources-based. There has to be designated adults for the students, as well as adults throughout the day to provide indications on the card that the students met the behavioral goals. However, not every school could provide resources consistently to such extent in order to achieve the effectiveness and the long-term goal of CICO (Swoszowski, McDaniel, Jolivette, & Melius, 2013). Third, school staff may use punishment to reprimand students’ problem behavior, such as time-out or reduced recess time, which may interfere with the CICO implementation and its effectiveness (Ennis, Jolivette, Swoszowski, & Johnson, 2012). Individuals who are implementing the CICO have little to no control over the use of discipline. Fourth, the effectiveness of the CICO may decrease if the students have attendance issues (Ennis et al., 2012). Lastly, many CICO studies use ODRs as a measure of the frequency of students’ problem behavior. However, Filter et al. (2007) pointed out that the psychometric properties of ODRs have not been clearly established and it has been the source of some controversy in the field of positive behavior support. Myers and Briere III (2010) have several suggestions in regards to the implementation of CICO in the school setting that address the above concerns. Some of the suggestions were to maintain consistency with staff, be flexible, assign responsibilities judiciously and follow through, use resources wisely, as well as intervene at the first sign of participant drift (Myers & Briere III, 2010).

In summary, numerous studies demonstrated that CICO is an effective tool in reducing students’ problem behavior at a Tier II level, despite some technical flaws, such as being time-consuming and relying heavily on human resources. It provides additional support for at-risk students who may not benefit fully from the Tier I interventions and prevent them from developing more serious or severe problem behaviors. This study is to examine if CICO is an appropriate targeted group intervention for elementary students, in order to reduce the frequency of students
being issued ODRs.

The purpose of the current study is to examine the effectiveness of the CICO intervention program for kindergarten level students and the acceptance level of the program among participants and facilitators, based on the number of ODRs and unstructured interviews. The participants' classroom teachers were also interviewed to provide their perceptions, experiences and feelings towards the CICO program. Based on the previous research, the hypothesis of this study is that CICO will be effective in reducing problem behavior in kindergarten level students, as measured by the number of ODRs.

Method

Participants

The participants in this study were from a rural elementary school located in upstate New York. There are approximately 420 children in grades Pre-Kindergarten through grade 5. The school had been actively participating in the Response to Intervention (RTI) process and had been implementing school-wide behavior support for a number of years. The school was in their third year of implementing the CICO program.

Students were selected for participation in the study if they were already participating in the CICO program or nominated by instructional staff to receive additional behavioral support. The total number of students included in the study was five. All five participants were of Caucasian background and enrolled in the general education setting. These students engaged in a range of problem behaviors including physical aggression, defiance, talking out, off-task behavior and making inappropriate comments. Consent from parents and teachers, and assent from the students were obtained prior to initiating the study. All components of the intervention were implemented by school staff (i.e. teachers, teacher’s aides, and school psychologist).
Measures

The CICO daily progress report card was utilized to monitor participants' progress throughout the school day. It was a 4" X 5" piece of paper that included the participant's name, date, daily CICO schedule, columns for recording points (smiley, neutral and sad faces) earned for each of the 4 behavioral expectations at the various check times and a key for the meaning of the faces.

Procedures

Check-In Check-Out was utilized in the school for 3 years. The school psychologist and teaching staff identified the five participants in the study, as students who might benefit from CICO using data (e.g., office referrals, teachers' requests for assistance). The CICO program was implemented entirely by school staff, and the students received the intervention every day. The primary investigator of this study played no role in implementation of this intervention for any of the participants.

Before the school day began, participants checked in with the CICO facilitator (the school psychologist). At check in, the facilitator provided the daily progress report to the participant, collected the previous day's home report, and interacted positively with the participant. The facilitator then reviewed the behavioral expectations and participant's targeted number of points for the school day, in order to encourage the participant to display appropriate behavior. All participants in the CICO intervention earned intangible rewards (e.g., extra play time in school psychologist's office or time on the sensory stage) for earning 80% or more of their goal points within a given week. Behavioral expectations for CICO matched the school's universal program expectations, which were "Be Safe," "Be Respectful," "Be Cooperative" and "Be Responsible." In addition, the expectations also match the school's universal teaching of character strengths, which were "self-control," "social smarts," "optimism," "zest," "grit" and "gratitude." The behavioral expectation
statements were: use your whole body to listen (self-control), “I follow the rules” (social smarts), I believe I can do this (optimism), “I actively participate” (zest), finishing work (grit) and “I am a Bucket Filler” (gratitude). Each participant was given four of the above mentioned behavioral expectations on the daily progress report according to their individual situation and needs.

At each of five specified times of the day (check in, morning meeting, circle time, recess/lunch, PM), participants could earn up to two points for each behavioral expectation; thus, a total of eight points could be earned for each specified check time. A smiley face rating indicated the participant followed all expectations (2 points), a neutral face indicated some expectations were followed (1 point) and a sad face indicated that no expectations were followed (0 point). At each check time, teachers rated the expectations and then provided either a verbal praise for meeting expectations or a prompt for the participant to improve his behavior for the next check time. A prompt could be an encouraging phrase such as “You can do a better job next time!” or “I know you can get a smiley face.”

At the end of the school day, participants checked out with the CICO facilitator. The facilitator recorded the number of total points earned and completed the home report. The home report was the exact form as the daily progress report and was given to each participant to bring home to their parents to fill out. At check out, the facilitator provided positive feedback to the participants or encouraged the participants to meet the behavioral goal the next day. At that time of the study, behavioral goals were only monitored when school was in session.

At the end of the school year, each participant was interviewed by the researcher during the morning check-in time; each interview lasted around five minutes. In addition, the participants’ teachers were interviewed as well. The students and their classroom teachers were asked about their experiences with the CICO intervention. The teachers were also asked if there was any positive behavioral change in their students and how their students reacted to different faces that they had obtained.
Design

An AB, or pre-test-post-test design, was used to study the effects of the CICO program. The same CICO intervention was implemented with each participant in the same classroom setting. This particular experimental design is sufficient in evaluating the effects of the majority of self-evaluating studies. The A phase, or baseline, was collected individually from the beginning of the school year (September 2014). During baseline, all participants took part in the universal component of their school’s school-wide positive behavior support program. Therefore, participants had been explicitly taught behavioral expectations in school, and rules for specific settings, including the classroom. Displays of major problem behavior (e.g. physical aggressions, disrespect, defiance etc.) resulted in an office discipline referral and a meeting with an administrator who decided on various consequences such as missing recess, being sent home and detention. The B phase, or intervention, was implemented and data were collected after the students were enrolled into the CICO program. The study did not return to phase A or baseline due to time constraint in the data collection process.

The primary dependent variables were student problem behavior and number of ODRs. Students’ monthly ODRs as well as daily CICO points were collected to serve as quantitative data. A daily progress report card was provided to each student for data collection purposes. The quantitative data collected were entered into the Schoolwide Intervention System (SWIS) for analysis. A comparison was made between the frequency of ODRs and total CICO points earned, at the beginning of the school year (September 2014), and the end of the school year (June 2015). Qualitative data were also gathered through unstructured interviews at the end of the school year with students and teachers, to examine their experience, thoughts and feelings in regards to the CICO program implemented.
Results

Student A

Student A was a kindergarten male student in general education. Data were collected for student A for 165 school days during the 2014-2015 school year. He had 43 major office discipline referrals (ODRs). The main reasons for ODRs were codes 1, 2, 3, 5 and 8 (see Appendix A for codes). Results obtained from Check-in/Check-out (CICO) are depicted in Figure 1.

The ODR data from the School Wide Information System (SWIS) suggested that the function for Student A’s problem behavior was avoidance of task (escape). Twenty-six percent of referrals submitted indicated his behavior was due to task avoidance, followed by 24% for gaining adult attention.

Student A had numerous ODRs from the start of the school year (September 2014) and was immediately enrolled into CICO; therefore, baseline data were not collected. When CICO was implemented, no discernible effect was noted; his problem behavior escalated and resulted in a noticeably increased number of ODRs in October 2014. However, he received no ODRs for the next three months. A trend of increased ODRs was again observed following a school break in January 2015; the number of ODRs received each month started yet another upward trend for 5 months in a row. Overall, the mean of ODRs received per month during the intervention phase was 4.3.

Student A’s daily goal was to earn at least 80% of the total possible CICO behavior points for each school day. Student A’s average daily percentage of point earned in CICO was 88.51, which was 8.51% above the set goal when he was first enrolled in CICO. It was indicated that the CICO data collection of Student A stopped abruptly on May 20, 2015; the classroom teacher discontinued data collection. This classroom teacher is the teacher of Student A, B and C in this study.

During an interview with his classroom teacher, she indicated that Student A frequently displayed non-compliant behaviors, such as refusing to participate in group activities or complete
assignments. He also tended to be physically aggressive towards teachers and students. He would kick or hit other students during periods of frustration. He would also “exaggerate things and make a big deal out of it.” For example, he threw a tantrum after he was not able to sit at a desired spot on the carpet during circle time. He subsequently started yelling and rolling on the floor. The assistant principal had to be called in to assist in calming him down.

His classroom teacher expressed that Student A would be influenced by other students with behavioral problems. At times they would act out together and “feed off” of each other. When asked if she saw a difference of Student A’s behavior before and after CICO, she said there was a few weeks of positive change, but not significant enough to last. She also mentioned that it was time-consuming to fill out the CICO forms and meet with students daily, as she had more than one student enrolled in the CICO program. She stated that she discontinued the implementation of several students’ data collection due to the perceived ineffectiveness of CICO.

Student A was briefly interviewed regarding his experience in the CICO program. He stated that he really liked to go on the sensory stage when he had received smiley faces all day, though he was not satisfied with the length of time he got to spend at the stage each time. He said he liked the CICO program, and that “it was really fun.”
Student B

Student B was a kindergarten male student in general education. Data were collected for Student B for 106 school days during the 2014-2015 school year. He had 56 major ODRs and he was given an out-of-school suspension within the school year as well. The main reasons for his ODRs were coded as 1, 2, 3, 6 and 7 (see Appendix A for codes). Results obtained from CICO are depicted in Figure 2.

The ODR information from the SWIS data suggested that the function for his problem behavior was avoidance of tasks (escape). Twenty-nine percent of referrals submitted indicated his behavior was due to task avoidance, followed by 20% for adult avoidance.

Student B did not have any ODRs at the start of the school year, as shown in Figure 2. However, his problem behavior escalated and was enrolled in CICO in November. Baseline data indicated that there was an upward trend of ODRs, with mean number of ODRs being 6 per month. When CICO was implemented, a significant decrease in ODRs was noted; the frequency of problem behavior went from 11 to 1 per month, from November to December 2014. However, a trend of
increased ODRs was again observed following a school break in January 2015, though not as significant as previously observed prior to the implementation of CICO. It was indicated that the CICO data collection of Student A stopped abruptly on May 19, 2015; the classroom teacher discontinued data collection. A significant increase in number of ODRs, a total of 18 incidents, was observed after CICO had discontinued.

Overall, the mean of ODRs received per month during the intervention phase was 3.3, which was a 2.7 point difference compared to baseline data. Student B’s daily goal was to earn at least 80% of the total possible CICO behavior points for each school day. His average daily percentage of point earned in CICO was 86.34, which was 6.34% above the set goal when he was first enrolled in CICO.

In an interview with Student B’s teacher, she indicated that he frequently displayed defiant behaviors, such as refusing to participate in group activities, refusing to follow rules/directions or throwing books on the floor. He also tended to be physically aggressive towards others. He would kick or hit other students during periods of frustration. His teacher stated that Student B’s problem behavior most likely occurred during class time when he was asked to join class activities and/or do assignments. She stated that “He will say ‘no’ to the activities or protest, then he will start throwing things or start growling.” The principal’s office had to be called on many occasions since the classroom teacher stated that she was afraid that Student B’s violent behavior (throwing books, chairs, kicking, etc.) would harm other students. She mentioned, again, that the CICO was not effective for any of her students. “It was kind of wasting my time,” as she pointed out during the short interview. When questioned if she would recommend this program to other teachers or students, she commented “no” and stated that calling the principal’s office was much more effective in calming down behaviors.

Student B declined to be interviewed regarding his experience in the CICO program. He shook his head and walked away when the interviewer asked him to share his thoughts about CICO.
Student B

![Graph showing the effects of CICO intervention program on Student B.]

Figure 2. Effects of CICO intervention program on Student B.

Student C

Student C was a kindergarten male student in general education. Data were collected for Student B for 104 school days during the 2014-2015 school year. He had 42 major ODRs. The main reasons for his ODRs were coded as 3 and 5 (see Appendix A for codes). Results obtained from CICO are depicted in Figure 3.

It was reported that Student C’s problem behavior occurred most often during class time. The function for his problem behavior was inconclusive according to the SWIS data obtained. The function of 26% of ODRs was unknown, followed by 19% for adult avoidance. Student C was enrolled in the CICO program on November 17, 2014, after the peak of problem behavior, which occurred in October 2014. The average ODRs received during baseline was 4.3. His problem behaviors greatly decreased and diminished towards the end of the data collection. However, the CICO data collection of Student C was also stopped abruptly on May 20, 2015; the classroom teacher discontinued data collection. An increase in number of ODRs was observed after the discontinuation, a total of 16 ODRs, was observed after CICO had discontinued. Overall, the mean
of ODRs received per month during the intervention phase was 2.2, which was a 2.1 point difference compared to baseline data.

Student C’s daily goal was to earn at least 80% of the total possible CICO behavior points for each school day. Student C’s average daily percentage of point earned was 90.02, which was 10.02% above his goal.

His classroom teacher indicated that he frequently displayed defiant behaviors, such as refusal of work, listen to directions or participation in activities and running down hallways. He was also physically aggressive towards others, such as kicking and biting. At one time he was frustrated and threw one of the toy cars in the play area, and almost hit another student. He was sent to the principal’s office that time. Student C indicated that he was sad because he always received “sad” faces on the daily CICO form, and that he did not like it. He liked going to the school psychologist’s room to play with toys, as well as going to the sensory stage as a reward. However, he said he did not have many opportunities to do so.

![Graph showing effects of CICO intervention program on Student C.](image)

**Figure 3.** Effects of CICO intervention program on Student C.
Student D

Student D was a kindergarten male student who received special education services with a classification of Other Health Impairment (OHI). Data were collected for Student D for 24 school days during the 2014-2015 school year. He had had 6 major ODRs. The main reasons for his ODRs were coded as 3 and 7 (see Appendix A for codes). Results obtained from CICO are depicted in Figure 4.

Student D’s problem behavior was reported to occur almost exclusively during class. The function for his problem behavior was inconclusive according to the SWIS data obtained. Fifty percent of referrals submitted had an unknown function of behavior, followed by 33% for task avoidance.

Student D was enrolled in the CICO program on March 10, 2015, after the appearance of a series of problem behavior in March 2015. Student D’s daily goal was to earn at least 80% of the total possible CICO behavior points for each school day. His average daily percentage of point earned was 82.40, which was 2.40% above his goal. He received his first ODR on January 21, 2015. The average ODRs received during baseline (January to early March 2015) was 1.7; his problem behaviors decreased and diminished towards the end of the data collection. Since the implementation of CICO, Student D only received one ODR for inappropriate language in March 12th. Student D was withdrawn from the CICO program on April 20, 2015 due to no additional problem behaviors being reported. There were no ODRs issued for Student D for the rest of the school year. There was a 0.7 point ODR difference at the end of implementation compared to baseline data.

During the teacher interview, his teacher indicated that Student D would display behaviors such as pushing, or use his body to “shove” adults or peers. He would also make disrespectful comments about others; for example, he called another classmate a name. His teacher commented that CICO seemed to be effective in reducing Student D’s behaviors. He was getting “smiley faces
very frequently.” He loved showing other adults and family about his progress. He ultimately requested to be unenrolled from the CICO program, as he felt that he had obtained positive results. She also mentioned that since being taken out of the program, Student D continued displaying problem behaviors once in a while, but definitely not as frequent as during baseline phase.

When asked about her opinion on CICO, she stated that it was very time-consuming to fill the forms out daily. It sometimes hindered the transition of the rest of the class to the next activity, because she had to meet with Student D to discuss program or encourage/praise him. She would recommend the intervention to other school professionals.

Student D appeared to be very enthusiastic about the discussion of CICO. He mentioned that he loved to get smiley faces and had shown them to his parents, and he received praise as a result. He then continued to describe the activities he had the opportunity to do due to meeting his daily goal in CICO, such as playing in the sand table, play with cars and trucks in the school psychologist’s office, etc. He described the overall experience as “very good.”

![Student D Graph](image)

**Figure 4.** Effects of CICO intervention program on Student D.

**Student E**
Student E was a kindergarten male student in regular education. Data were collected for Student E for 29 school days during the 2014-2015 school year. He had had 18 major ODRs. The main reasons for his ODRs were coded as 1, 2, 3, 5 and 6 (see Appendix A for codes). Results obtained from CICO are depicted in Figure 5.

It was reported that Student E’s problem behavior occurred mostly during class, with defiance being the most severe problem behavior. The ODR information from the SWIS data suggested that the function for Student E’s problem behavior was Attention-seeking. Forty-four percent of ODRs was to gain peer attention, followed by 28% of unknown cause(s).

Student E was enrolled in the CICO program on November 17, 2014, after obtaining his first ODR in October 2014 due to interruptions and disrespecting his teacher multiple times in a math lesson. Student E’s daily goal was to earn at least 75% of the total possible CICO behavior points for each school day. His average daily percentage of point earned was 85.98, which was 10.98% above his goal. The average of ODRs received during baseline was 0.5; his number of ODRs obtained after intervention began greatly diminished until February 2015. His problem behavior frequency started to increase in February and created an upward trend of ODRs, resulting in 8 ODRs in the month of June 2015. Overall, the mean of ODRs received per month during the intervention phase was 2.1, which was a 1.4 point increase compared to baseline data.

During a teacher interview, Student E’s teacher indicated that he frequently displayed defiant and aggressive behaviors, such as refusal to follow directions, to comply with teacher requests, and participate in lessons or activities. He had attempted to escape from the classroom on several occasions due to “not getting his way.” He was also physically aggressive and disrespectful towards others, such as tripping and pushing. He disrupted class instructions and other activities on a regular basis. His teacher described him as “out of control” at times. Disciplinary technique “123 Magic” was used in conjunction of CICO to reduce unwanted behavior in Student E. However, the classroom teacher indicated that neither seemed to be working for him. When asked about her
experience with CICO, the classroom teacher stated that she had other students in the program in previous years and they have worked on occasions, but not in the case of Student E. His behaviors worsened and she had to constantly address his behaviors in class. She mentioned that CICO was time-consuming and sometimes she did not fill out the CICO monitoring form until a while after school day had started. When asked if he liked the CICO program, Student E replied “Good, if I can get all the smiley faces. I don’t like sad faces.”

![Student E](image)

Figure 5. Effects of CICO intervention program on Student E.

**Discussion**

The Response to Intervention (RTI) model is a model that has been shown to be effective in assisting struggling students in the school setting (Barton & Stepanek, 2009). It was endorsed in the 2004 reauthorization of the Individuals with Disabilities Education Improvement Act (IDEA 2004) as a means of identifying learning disabilities. However, in recent years, researchers have gathered evidence that the principles of RTI can also be applied in terms of behavioral modification for students at-risk of developing problem behaviors in the school setting. Check-in/Check-out (CICO) is one of the interventions in the second tier of RTI that is well-
documented as an effective intervention in reducing problem behaviors in students (Campbell & Anderson, 2011; Crone et al., 2010; Filter et al., 2007; Hawken & Johnston, 2007). It is a much better option in reducing and regulating student problem behaviors than traditional disciplinary methods such as detention or suspension (Sugai & Horner, 2008).

CICO was shown to be effective in various school and residential settings, and is suitable for students with or without disabilities (Bergman, 2009). A reduction of problem behaviors was observed, both in terms of externalizing and internalizing behaviors (Hunter et al., 2014; Simonsen et al., 2010; Swoszowski et al., 2012; Todd et al., 2008). Although there are some drawbacks found in the implementation of CICO intervention, such as labor-intensive and time consuming, positive effects can be seen when it is implemented with consistency and fidelity (Swoszowski, 2014).

The current study was conducted to examine the effectiveness of CICO in reducing externalizing behaviors in young elementary school children. Five kindergarten participants with externalizing behaviors were selected to participate in the study. Quantitative data were collected through examination of the ODRs in the SWIS program; qualitative data were collected through unstructured interviews with participants and their classroom teachers to gain input of their perceived effectiveness of CICO.

Based on the data presented for the five participants, the results indicate that the effectiveness of CICO procedures was inconclusive in reducing targeted problem behaviors. The intervention was effective for some participants but not others. Student A's number of ODRs peaked in the second month (October) into the intervention implementation. The number was drastically decreased to zero for the next 3 months, and then it gradually increased again. Student B's number of ODRs peaked the first month of intervention, then had a downward trend; however, the number of ODRs then started to drastically increase post-intervention, soon after the intervention had discontinued abruptly, indicating that CICO might have been beneficial in regulating Student B's behaviors. In terms of Student C, the number of ODRs was very low during intervention phase
compared to baseline phase. An increase in number of ODRs was observed after CICO had discontinued abruptly, which demonstrated evidence that CICO was helpful in regulating Student C’s behaviors. Student D received a few number of ODRs and was enrolled into CICO. His number of ODRs was high during the month of intervention (March). He was subsequently unenrolled in April and did not receive an ODR post-intervention. Student E received no ODRs the first 4 months (November to February) of intervention; however, since February, an increasing trend of ODRs was observed and the number of ODRs peaked in June.

Although all participants reached their CICO daily behavioral goal during the intervention phase, an increase in the number of ODRs was shown post-intervention for Student B and C. Student E had increasingly high numbers of ODRs obtained each month towards the end of intervention. It is important to note that previous research has shown that not all students who participate in the secondary level interventions, such as the CICO program, were successful in reducing their problem behavior (Hawken & Johnston, 2007).

In further review of data for all participants, it was apparent that some of the participants’ behavior did not improve as much when compared to others. Student A did not have a baseline phase due to the immediate enrolment into the program at the beginning of the school year. Students A, B and E had inconsistent trends in their number of ODRs received during the intervention phase. These data indicated the inconsistency of the effects of CICO intervention in this study, even though all participants exceeded their individualized CICO point goals at the end of data collection. A reason why Students A and B did not perform as well as their peers were due to the possibility that these students did not find positive adult attention reinforcing enough for them to significantly improve their problem behaviors.

Another possible reason that CICO was not effective for Students A and B could be that the consistency of intervention implementation was not maintained throughout the intervention. As indicated by the classroom teacher of Students A, B and C, she felt that CICO implementation was
too time-consuming and that it interfered with class instructional time. She eventually terminated
the implementation of CICO prematurely. An observer not associated with the research or program
indicated that the teacher did not check in with the participant until well into the morning after the
school days had begun. In these instances, the consistency and fidelity of the intervention were not
maintained; it could have a negative influence on the effectiveness on the intervention.

Participants in this study generally expressed positive opinions towards CICO. They stated
CICO was fun and rewarding. They also enjoyed the reinforcement and the individual adult
attention that they received; however, a mixed opinion was received from the teachers who
implemented the intervention. Three teachers were interviewed in this study. All teachers had
expressed that CICO was very time-consuming and sometimes hindered the rest of the classroom
activities or transition. One teacher discontinued the CICO due to perceived ineffectiveness of the
program. One teacher was inconsistent with the check-ins with her student due to other classroom
duties at times; however, she would recommend CICO to other school professionals to reduce
problem behaviors in students.

Based on the quantitative data obtained in this study, an increase in ODRs was observed for
Students A and B post-intervention, thus the CICO intervention could be modified and reintroduced
to these participants. One possible modification is to create a reinforcement that is tailored to
individual participant’s function of the behavior. For example, both participants’ function of
problem behavior was determined to be avoidance of tasks. One modification could be that their
reinforcement for decreased ODRs is to have a free pass on an assignment that they are not
interested in. Furthermore, a brief interview could be held with each participant to inquire about
their specific interests or the reward that they are interested in receiving. This could increase their
motivation to reduce problem behaviors.

Hawken & Johnston (2007) suggested that more intense and individualized interventions
(Tier III) should be put in place for students who are unresponsive to target level interventions.
Students A, B, C and E could continue the intervention to continue reducing their problem
behaviors in the school setting, as they have displayed, towards the end of the school year, an
increase in the number of ODRs received. In the cases of Students A and C, more post-intervention
data would be needed to warrant a dismissal from the CICO program for the next school year.

Additionally, the CICO intervention could be effective with other students with similar
characteristics of those that participated in the study (Bergman, 2009). Other students who
displayed problematic, but not very severe behaviors could be positively impacted by the CICO
intervention. This intervention could serve as a continuum of behavioral support that would help
prevent more severe behaviors from occurring.

There are several limitations presented in this study. First, there was no fidelity check
conducted to ensure the proper implementation of the intervention. Scheduling conflicts and time
constraints of the staff involved in the CICO intervention prevented the appropriate personnel from
conducting a fidelity check throughout the intervention process. As a result, the lack of fidelity
check in this study might have negatively impacted the results, as the teachers may not have
implemented the CICO with fidelity. This should be taken into account when reviewing
participants’ performance. The effectiveness of CICO could have been further examined had the
implementation been continued until the end of next school year. If the intervention was continued
for a longer time period, the cumulative reports that would have collected would indicate more
sufficient and descriptive data in regards to the effectiveness of CICO in this particular study.

Second, participants in this study enrolled in the CICO program at different times during the
school year and not all participants had baseline data collected. Student A did not have baseline data
to compare to his intervention data as he was enrolled in September. Student D was enrolled in the
program March while 3 participants were enrolled in November. Third, the length of intervention
phase for each participant was also different. Three participants’ data collection ended prematurely
while two other participants were still in the program. This also made data interpretation difficult.
Fourth, ODRs are not the most ideal choice in terms of being used to measure the frequency or severity of student problem behaviors, due to the fact that ODR referrals tend to be more subjective to the individual school staff member. In other words, there are no objective guidelines for teachers to follow in reporting student problem behavior in the form of ODRs. This greatly reduces the reliability of the use of ODRs as a measure of problem behavior, as different teachers may have different levels of tolerance for student problem behaviors. Lastly, there were a limited number of students who participated in the CICO program, as not many staff members were willing to participate in the CICO implementation. The current study only included five participants, rather than a larger number of participants, which may negatively impacted the generalizability of the results of the study into other educational settings.

In future research, students with a similar enrolment date and length could be included, those with disabilities such as learning disability or emotional disturbance, as well as students who are considered at risk for developing more serious and problematic behaviors. More participants could be included in future research to increase the generalizability of the results. In addition, it would also be interesting and informative to further examine the effectiveness of CICO for students with disabilities and receive special education services, as not all participants in this study received special education services or class accommodations. Another measure could be considered in place of ODRs as quantitative data, such as frequency or severity of problem behaviors of the students. Moreover, another school staff member, such as a classroom aide, in the classrooms could be present during check-in times to ensure the level of fidelity is maintained by the classroom teachers. The school staff member and the classroom teacher could also alternate school days to check in with participants to avoid being overwhelmed by added responsibilities and the shortage of time. This may be a solution to avoid abrupt discontinuation of the CICO intervention in the future. Furthermore, fading of the intervention can be taken into consideration when a consistent decrease of number of ODRs is observed, over the span of 6 months or longer. Designated check-in times
can be lessened gradually as the students become more independent in monitoring and regulating their behaviors. One possible way to fade the intervention is to check in with students one less time per month each month they are observed to have a decrease in the number of ODRs.

In conclusion, the CICO intervention in this study appears to be effective for some students, who are displaying problematic, but not severe behaviors in the general education classroom settings, but not for others in the same education setting. It may be related to the fact that all participants received similar types of reinforcement, rather than individualized, tailored to their personal interests. The current evaluation of implementing CICO had mixed outcomes among participants in the kindergarten level. Further research needs to be conducted to examine the effectiveness of CICO in this particular school setting.
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valid is it?. Reading Research Quarterly, 41(1), 93-99.


Appendix A

Codes for referral type

1) Defiance/Insubordination/Non-Compliance
2) Disruption
3) Physical aggression
4) Out of bound (location or area)
5) Other
6) Disrespect
7) Inappropriate language