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An Evaluation of the Effectiveness of the Check-in/ Check-out Intervention for Students Engaging in Relational Aggression and Their Classmates

Emily Patty Corwin
Louisiana State University and Agricultural and Mechanical College

AN EVALUATION OF THE EFFECTIVENESS OF THE CHECK-IN/CHECK-OUT INTERVENTION FOR STUDENTS ENGAGING IN RELATIONAL AGGRESSION AND THEIR CLASSMATES

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Emily Patty Corwin
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Abstract

The purpose of the current study was to evaluate the effectiveness of the Check-in/Check-out intervention (CICO; Crone, Hawken, & Horner, 2010) when it is applied to children who display relationally aggressive behaviors. Previous research indicates that universal, school-wide, interventions are generally ineffective in decreasing behaviors associated with relational aggression. It may be that a targeted intervention, such as CICO, could be more effective. Three schools were selected for participation in the current project, and the fifth grade of each of these schools was targeted. One school served as the treatment school, while the other schools served as the delayed-treatment control school. Students in each participating classroom who exhibited relationally aggressive behaviors above their class mean as reported by teachers participated in the CICO intervention for four weeks. During intervention, targeted students were assigned an adult mentor to check-in and check-out with each day, and teachers gave students feedback on their behavior throughout the school day. Effects on targeted students and other students in the grade were evaluated through repeated measures analyses of variance. It was hypothesized that reductions in both relationally aggressive behavior and self-reported rates of victimization by relationally aggressive behavior would result. The data did not support these hypotheses. Generally, students in the treatment group reported increased levels of relational aggression following treatment, while students in the delayed-treatment group reported decreasing levels. Teachers reported decreasing levels of relationally aggressive behaviors in their students over time, though these results were not significant. Victimization by relational aggression decreased following intervention, though this result was also not significant. Results, implications, limitations, and future directions are discussed.

Introduction

Currently there are no targeted and individualized interventions for behaviors associated with relational aggression. Several preventive interventions have been designed and evaluated, but typically these have been developed primarily for the prevention of physical aggression. Rarely have interventions been designed for or applied to the treatment of relational aggression (Leff, Waasdorp, & Crick, 2010). Furthermore, as relational aggression is known to exist throughout childhood, beginning as young as age three (Crick, Casas, & Mosher, 1997), prevention efforts may not be enough to reduce these behaviors in children already exhibiting them. Finally, the extant universal interventions have had very little impact in reducing victimization behaviors (Merrell, Gueldner, Ross, & Isava, 2008).

Some targeted interventions exist in the form of pull-out groups (Leff et al., 2010); however, these have little room for flexibility and are not individualized to fit students' needs. Pull-out interventions look much like universal interventions: they are manualized and are delivered in a group format, but they are delivered to a small group of students who are pulled from the classroom to receive intervention. These group pull-out interventions have many of the same drawbacks as universal interventions. These interventions have not been overwhelmingly effective in the reduction of victimization behaviors and they generally have not been developed specifically to address the effects of relationally aggressive behaviors (Leff et al., 2010).

A further limitation in this area of research is that very little effort has been delegated to developing interventions for students who are victimized by relationally aggressive behaviors. Leff (2007) suggested that the development of interventions for students exhibiting relationally aggressive behaviors (as opposed to those primarily exhibiting physically aggressive behaviors) and those who are victimized by these behaviors are the two areas most in need of research

attention. Therefore, the purpose of the current research is to implement and evaluate the effects of an evidence-based targeted intervention, Check-in/Check-out (CICO; Crone, Hawken, & Horner, 2010), to behaviors associated with relational aggression. In reducing relationally aggressive behaviors in targeted students, the hypothesis is that victimization will be reduced throughout the grade.

Relational Aggression

Relational aggression is any behavior that causes harm or distress to others through the manipulation of social relationships (Archer & Coyne, 2005; Crick & Grotpeter, 1995). This includes social exclusion, ignoring, alienation, spreading lies and rumors, and gossiping (Leadbetter, 2010). These behaviors can be grouped into direct and indirect forms of relational aggression. Direct forms of relational aggression include both verbal and nonverbal threats of damage to one's social standing or reputation. Frequently this type of relational aggression is confrontational. Indirect forms of relational aggression include behaviors such as ignoring and alienation; these are more covert behaviors that often occur "behind the back" (Verlan & Turmel, 2010).

Relational aggression has been called by several different names in its brief history (Björkqvist, 2001). When first discussed, this class of behaviors was termed indirect aggression, getting at the "behind the back" behaviors described above (Lagerspetz, Björkqvist, & Peltonen, 1988). One year later, the same issue was referred to as social aggression (Cairns, Cairns, Neckerman, Ferguson, & Gariepy, 1989). Finally, a class of behaviors very closely related, but encompassing both direct and indirect forms of this phenomenon was entitled relational aggression (Crick & Grotpeter, 1995). Relational aggression is a more comprehensive term to describe these behaviors, and will therefore be used throughout this paper.

Prevalence and Theories Related to Development

The prevalence of relational aggression is widespread, although specific prevalence rates have not yet been pinned down by research. Physical aggression is better understood and better defined, and affects about 1 in 5 school-age children (Glew, Rivara, & Feudtner, 2000). In an attempt to get at an estimate of the prevalence of relational aggression, three studies are highlighted. First, Crick, Bigbee, and Howes (1996) asked students between the ages of 9 and 12 to identify which aggressive behaviors were commonly used by boys and girls when they are mad. Choices included relational aggression, physical aggression, verbal threats and verbal insults, avoiding, telling the teacher, or annoying the other student. Boys of this age group generally identified physical aggression and verbal insults or threats as the primary way that boys behave when angry. Alternatively, girls in this age group identified relationally aggressive behaviors overwhelmingly as the behavior of choice for girls when they are mad. Therefore, for girls ages 9 to 12, relationally aggressive behaviors are seen as one of the most common aggressive behaviors.

Remillard and Lamb (2005) studied the coping strategies of girls who are victimized by relational aggression. Girls included in this study were between the ages of 11 and 18. Each of the 98 girls sampled admitted experiencing at least one recent instance of relational aggression. The specific breakdown of the types of relational aggression reported in this sample follows: Gossiping and spreading rumors was the most reported type of aggression (44%), followed by exclusion and ignoring (29%). Aggression concerning boys ("stealing boyfriends") and telling secrets were also common responses from this sample (17% of responses and 10%, respectively). Again, that every girl included in this sample reported at least one recent instance of

victimization by relational aggression suggests that this class of behaviors is extremely common. The results of this study extend the age range to include behavior of high school students.

Patty and Gresham (2011) developed a screening system (teacher-report, self-report, and peer nominated) to identify relationally aggressive behaviors in the classroom. Four hundred and fifty-three boys and girls in the fourth and fifth grades were included in this study. Students were between the ages of 8 and 11. Students responded to the self-report questionnaire by indicating whether they *never, almost never, sometimes, almost always,* or *always* engage in the behaviors listed. Responding to a question with anything other than *never,* students indicated that they, at least in some cases, use relational aggression, or have been victimized by relational aggression in the past. Among those sampled in this study, 77% reported a willingness to victimize other students by relationally aggressive means (talking about other students or excluding other students) and 83% of the sample reported having been victimized through relationally aggressive means (being talked about by others or left out in a group). Therefore, more than three-quarters of students in grades 4 and 5 reported using or being affected by relational aggression. It is important to note that simply indicating that they *almost never* use relationally aggressive behaviors or are *almost never* victimized by relationally aggressive behaviors may not translate to these children having serious issues related to relational aggression, a topic that will be addressed in some detail later. This study did not include a measure of psychopathology, and so there is no way to know how many of these students also had psychiatric disorders that may or may not be related to aggression. If the rates of aggression are limited to only those students who reported that they *almost always* or *always* use or are victimized by relationally aggressive behaviors, the percentages drop to 9% and 14% of students, respectively. These numbers may reflect the students who are more seriously affected by

relational aggression, as they are reporting that relationally aggressive behaviors are more a part of their daily lives.

As evidenced by these studies, at least some minor relational aggression between the ages of 8 and 18 seems to be prevalent, particularly for girls. Specifically, it seems that every girl experiences at least a few relationally aggressive acts throughout her development. Some researchers argue that relational aggression is so prevalent that it should be considered normal behavior (Cairns et al., 1989; Underwood, Galen, & Paquette, 2001). Underwood and colleagues (2001) point out that relational aggression may serve a developmentally important role. They suggest that these behaviors may positively affect development by helping an individual maintain a sense of group belonging, by helping to protect the closeness and integrity of one's peer group, or by possibly helping an individual try out different ways of thinking about one's own identity and how to behave in social situations. According to Underwood and her colleagues (2001), it is important for researchers to accept that this behavior could be normal, and to conduct research both on normal populations and seek out extremes within these populations to observe and evaluate possible positive and negative outcomes associated with relationally aggressive behavior.

Archer (2001) argues that aggression, in general, can be a normal, an abnormal, or a maladaptive behavior, and that the distinction between normality and abnormality depends upon the context in which the behavior is taking place. Specifically, he suggests that although aggression often has unwanted and antisocial components attached to it, the behavior itself is not always maladaptive, and therefore aggression should not be considered to be abnormal unless there is clear evidence of pathology. The example Archer provides is within the context of a prison; aggressive behavior exhibited by a prisoner may be effective in maintaining social status

or self-esteem, and therefore would be adaptive and normal in this situation. However, in the school setting, aggressive behavior is maladaptive to the extent that teachers discourage it and aggressive behavior generally leads to punitive consequences for students who exhibit it.

Some students who exhibit aggressive behavior have clear evidence of pathology. These students often experience negative outcomes later in life, and commonly have current diagnoses directly related to aggression. Specifically, Conduct Disorder and Oppositional Defiant Disorder often go hand-in-hand with the expression of aggressive behavior (Jimerson, Hart, & Renshaw, 2012). Conduct Disorder is characterized by "a repetitive and persistent pattern of behavior in which the basic rights of others or major age-appropriate societal norms or rules are violated" (American Psychiatric Association, 2000). The behavior is subdivided into four main groupings, including aggression to people or animals, destruction of property, deceitfulness or theft, and serious violations of rules. While many of these behaviors are more likely descriptors of physical aggression, some may also apply to children and adolescents primarily exhibiting relationally aggressive behaviors (e.g., threatening and intimidating others, some forms of deceitfulness, etc.). The criteria for Conduct Disorder in the updated Diagnostic and Statistical Manual (DSM-V) have remained largely unchanged from what is described above (American Psychiatric Association, 2013). Oppositional Defiant Disorder is characterized by "a recurrent pattern of negativistic, defiant, disobedient, and hostile behavior toward authority figures" (American Psychiatric Association, 2000). The updated DSM-V divides Oppositional Defiant Disorder into three clusters of symptoms. The three clusters are angry/irritable mood, argumentative/defiant behavior, and vindictiveness. This change was intended to highlight the fact that this disorder can include both emotional and behavioral dysfunction. Furthermore, the DSM-V encourages clinicians to consider that symptoms of this disorder are often observed in

typically developing children and do not necessarily represent psychopathology, further highlighting the blurred lines between problematic and normal use of relationally aggressive techniques discussed throughout this paper. However, it stands that behaviors consistent with a diagnosis of Oppositional Defiant Disorder that may also be characteristic of relationally aggressive behavior include deliberately annoying people, blaming others for mistakes or misbehavior, and being resentful, spiteful, or vindictive. A child diagnosed with either Oppositional Defiant Disorder or Conduct Disorder may also exhibit behaviors consistent with relational aggression.

Many theories and models exist concerning the development of aggressive behaviors. Two major ways of thinking about the development of aggression include Social Learning Theory (Bandura, 1986) and the Social Information-Processing Model (Crick & Dodge, 1994). Social Learning Theory has three basic assumptions. The first assumption is that learning occurs internally and is socially mediated. The second assumption is that behavior is goal directed. Finally, the third assumption is that reinforcement and punishment have both direct and indirect effects on learning. Directly, reinforcement and punishment affect behavior; indirectly, these consequences affect cognitions (Bandura, 1986). One model based upon Social Learning Theory is the Social Learning Model. The Social Learning Model highlights the importance of antecedents and consequences of behaviors in a child's social environment, particularly between the child and his or her parents, siblings, and teachers. Arguably, concerning relational aggression, the antecedents and consequences of the peer group may be even more powerful than for children using these behaviors than antecedents and consequences in place surround parents, siblings, and teachers. Another important focus of this model is the potential for inappropriate modeling from these important others in the child's immediate social environment (Patterson &

Yoerger, 2002). If aggressive behaviors are modeled for the child by someone in his environment (e.g., parents, peers), the child may learn these behaviors through observation. Furthermore, if a child's aggressive behavior is reinforced, even inadvertently, the model suggests that this child will be more likely to be aggressive again in the future.

The Social Information Processing Model places primary importance on the cognitions of the individual exhibiting aggressive behavior, rather than on the contingencies in place within that individual's environment (as in the Social Learning Model; Crick & Dodge, 1994). Crick and Dodge hypothesize that when a child is faced with a social cue, that child engages in several cognitive steps before acting out a social behavior. The model ultimately states that aggressive children tend to have flaws in their interpretation of a situation that lead to aggressive behaviors. Specifically, the model hypothesizes that aggressive children interpret social cues as being hostile which results in these children choosing to engage in aggressive behaviors over prosocial behaviors.

Outcomes for Students Affected

Literature on aggression in general and relational aggression in particular indicates that aggressors may experience a host of both positive and negative outcomes. On the other hand, victims generally experience only negative outcomes (Leff, 2007). Positive and negative outcomes, including psychological diagnoses, may appear at the time of the aggression or later in life (Rudolph, Troop-Gordon, Hessel, & Schmidt, 2011). Particularly the negative outcomes and psychopathology associated with peer victimization have resulted in this phenomenon being considered a major public health concern (Rudolph et al., 2011).

Positive Outcomes. Positive outcomes associated with aggressive behavior generally stem from the aggressor being viewed by peers as having influence and power (Leff, 2007). This

is one result that has been shown to be true more often of relational aggressors than of physical aggressors. Card, Stucky, Sawalani, and Little (2008) conducted a meta-analysis evaluating the relationship between maladjustment and the use of direct and indirect aggression. The authors found, among many other results, that indirect aggression, defined by the authors as exclusion, gossiping, and rumor spreading, is uniquely related to high prosocial behavior. The authors explain this result by suggesting that because this type of aggression is social by nature, the children engaging in this type of aggression must use social skills to gain the support of other students. These students may use their strength in social skills to be aggressive towards their less socially skilled peers; the students who are the easiest targets are those who cannot make or take a joke.

Another way of evaluating the potential positive effects of using relational aggression is to ask about the popularity of the students using this type of behavior. Lease, Kennedy, and Axelrod (2002) conducted a study using this question in mind with students in fourth to sixth grade. They asked students to nominate other students who were liked the most or liked the least. They also measured sociological popularity. This type of popularity is considered perceived popularity: students who are viewed by other students as being in the "popular crowd," though who may not be well-liked by other students, would be included in this ranking. The authors found that girls who were perceived as being popular (i.e., were ranked in the sociological popularity ranking), were generally not well-liked, and were above-average on measures of social aggression. Although these girls were not well-liked, they were considered to be more admired, to have more of an ability to lead groups, and to have more social control than those girls who were rated as being well-liked. The authors of this study argued that being

perceived as popular and having more social aggression, was a key determinant of social power in peer groups for this sample. Long-term positive outcomes were not evaluated in this study.

In addition to students viewing peers who are aggressors as popular, teachers have also been shown to view these students as being more popular (Bradshaw, Sawyer, O'Brennan, 2007). In one study teachers and students responded to questionnaires concerning school safety and bullying within their school system. Close to half of teachers in elementary school and high school in this system reported that the bullies in their school were popular with other students (48.8% and 43.3%, respectively). Almost three quarters of middle school teachers reported that bullies were popular with other students (72.4%). Comparable to the Lease and colleagues (2002) study, teachers also reported at similar rates that bullies were feared by other students.

Popularity, or perceived popularity, certainly does not unequivocally equal positive outcomes for the aggressor, though it may provide the aggressor more power and social influence. Another example of positive outcomes for those who engage in relationally aggressive behaviors include increases in friendship quality found in longitudinal studies conducted by Banny, Heilbron, Ames, & Prinstein (2011). During the first longitudinal study, girls in the sixth grade were questioned about relational aggression, overt aggression, and friendship quality. A year later, the same girls received the same questions. Analyses indicated that high levels of relational aggression at time 1 predicted increases in friendship quality one year later. The results of this study were then taken into the laboratory, where girls were asked to bring a friend in to have their conversations video recorded and later coded for evidence of relational aggression. Six months later, the target girls received a phone call in which they were asked about the quality of the friendship with the girl brought into the study. In friendships where each girl had indicated that the friend present with her in the study was her best friend,

high levels of relational aggression in the videotaped conversation predicted increases in friendship quality. However, in friendships that were not reciprocal best friendships, high levels of relational aggression at time 1 predicted decreases in friendship quality. The authors propose that this result suggests that relational aggression can have both adaptive and maladaptive outcomes on friendship quality. Another possible explanation is that the presence of relational aggression in friendships can lead to a "weeding out" phenomenon: strong friendships grow stronger, whereas weaker friendships fail. Finally, this article did not discuss whether relationally aggressive comments were directed at the friend present or were simply present in conversation and concerning perhaps other girls or friends not present in the laboratory. If the latter is the case, and friendship quality increased at the follow-up measurement, this could represent what Underwood and colleagues (2001) discussed as a strengthening of peer groups or cliques as a result of relational aggression.

Despite the potential positive outcomes experienced by relational aggressors, the fact remains that victims of relational aggression experience only negative outcomes. Furthermore, there are also some negative outcomes associated with being the aggressor. Negative outcomes and comorbid psychiatric disorders will be discussed in the following section.

Negative Outcomes. Ttofi and Farrington (2008) presented information on the negative effects of bullying, without specification of whether "bullying" referred to the physical or relational aspect of the construct. Regardless, as an overview of potential negative outcomes, this review seems the most general starting point. According to these authors, the most robust link in the research is demonstrated between involvement in bullying, both being a bully and being a victim, and depressive symptomatology. Involvement in bullying leads to more symptoms reported on the Children's Depression Inventory and more referrals for psychological

services (Kumpulainen, Rasanen, and Henttonen, 1999; Sourander, Helstela, Helenious, and Piha, 2000). Furthermore, bullies and victims are more likely than students not involved in bullying to feel sad and unsafe at school (Glew, Fan, Katon, Rivara, & Kernic, 2005).

Thus far only positive outcomes have been discussed for children who bully or take advantage of other children. Several studies have identified negative outcomes associated with bullying behaviors. First, Salmon (1998) found that children who are bullies between the ages of 12 and 17 tended to score higher on measures of depressive symptomology. More generally, children who were bullies reported more psychosomatic symptoms and were more likely to report disliking school (Forero, McLellan, Rissel, & Bauman, 1999). Children who are bullies have also been found to be more at risk for future excessive drinking and substance use, (Kaltiala-Heino, Rimpela, Rantanen, & Rimpela, 2000), shop-lifting (Van der Wal, De Wit, & Hirasing, 2003), and being convicted of committing crimes (Olweus, 1997).

To evaluate negative outcomes associated specifically with the use of relationally aggressive techniques, Crick and Grotpeter (1995) developed a scale to identify students who are relationally aggressive and also utilized questionnaires to assess levels of psychosocial maladjustment for these children. They found that children who are relationally aggressive towards their peers are significantly more disliked by their peers than children who do not use these techniques. This result is generally in-line with the result found by Lease and colleagues (2002), but Crick and Grotpeter did not include an evaluation of the perceived popularity of these students as well. However, Crick and Grotpeter did find that use of relational aggression leads to other maladjustments beyond dislike by peers. They identified that students engaging in these behaviors are more depressed and feel lonelier than their peers who do not use relational aggression. Crick and Grotpeter further identified that psychosocial maladjustment is moderated

by the gender of the child; psychosocial maladjustment is more pronounced for girls who use relationally aggressive techniques than it is for boys. Furthermore, Crick (1996) found that relational aggression affects future social adjustment to a significant degree. Specifically, children who use relationally aggressive techniques have more negative social adjustment over time.

Crick (1997) further evaluated the negative outcomes for children who are physically aggressive versus children who are relationally aggressive. She found that physically aggressive children tend to have more externalizing issues, disorders, and behaviors than peers, and children who are relationally aggressive tend to be more internalizing than peers. However, children who are relationally aggressive *also* tend to be more externalizing than their peers. Therefore, children who use relationally aggressive techniques may demonstrate both externalizing and internalizing issues. Within her research, Crick found that girls tend to use more relational aggression and boys tend to use more physical aggression; however, this is generally not believed to be the case today (see meta-analysis by Card, Stucky, Sawalani, & Little, 2008). She refers to girls using relational aggression and boys using physical aggression as being "gender normative." Crick found that "gender non-normative" use of aggression (i.e., boys being relationally aggression and girls being physically aggressive) led to higher levels of psychosocial maladjustment for these students.

The negative outcomes associated with being victimized by aggression are substantial. Children who are exposed to bullying behaviors tend to be more anxious and depressed than other students (Salmon, 1998; Salmon, James, Cassidy, & Javaloyes, 2000). These students are more likely to express suicidal thoughts and ideation (Kaltiala-Heino, Rimpela, Martunnen, Rimpela, & Rantanen, 1999; Van der Wal et al., 2003). In addition to negative psychological

outcomes, students who are victims of bullying also experience more negative physical outcomes. For example, victims of aggression are more likely than non-victims to suffer from headaches and stomachaches, abdominal pain, bed-wetting, difficulties falling asleep, and feeling tired (Fekkes, Pijpers, & Verloove-Vanhorick, 2004; Due, Holstein, Lynch, Diderichsen, Gabhain, Scheidt, et al., 2005). Victims of aggression also tend to have poorer social adjustment, less ability to make friends, and low quality relationships with other same-aged peers (Nansel, Overpeck, Pilla, Ruan, Simons-Morton, & Scheidt, 2001).

Children who are victimized by aggression may also suffer from long-term negative outcomes. Adults who were victimized as children reported being more shy (Jantzer, Hoover, & Narloch, 2006). Within this same study, adults who were victimized reported significantly lower quality friendships and more trust issues than adults who were not victimized as youth. Young men who were victims of bullying as teenagers reported more depressive symptoms and lower self-esteem than those who were not bullied. In general, victimization at school seems to result in long-term social, emotional, and behavioral negative outcomes (Parker & Asher, 1987; Ttofi & Farrington, 2008).

Specific to relational aggression, Rudolph and colleagues (2011) assessed levels of victimization for students in the second grade and changes in levels of victimization for the same students over time through the fifth grade. These authors measured not only victimization, but also levels of depression and use of physical and relational aggression. Rudolph and colleagues found that students exposed to victimization in the second grade were significantly more likely to have depressive symptoms, and to use overt and relational aggression.

One key difference between physical aggression and relational aggression is that within physical aggression there is a clear power differential: one child is the bully and the bully picks

on another child who is the victim. Within relational aggression, this power differential is not as clear. Relational aggression is often used by peer groups, and therefore those using relational aggression are often also victimized by it (Card, Hodges, Little, & Hawley, 2005). Commonly students involved in relational aggression are both bullies and victims, and therefore would qualify as being bully-victims. There are a number of negative outcomes uniquely associated with a student being classified as a bully-victim.

Bully-victims tend to report that they feel they do not belong at school (Glew et al., 2005). Kaltiala-Heino and colleagues (1999) discovered that, compared to bullies-only or victims-only, bully-victims were the most likely to report feeling depressed. A later study by Kaltiala-Heino and colleagues (2000) found that bully-victims were also more likely to report symptoms consistent with anxiety. Furthermore, these students tend to report more suicidal ideation and self-injurious behavior than other students (Kim, Koh, & Leventhal, 2005). Finally, while scores on behavior problems, hyperactivity, conduct problems, prosocial behavior, and problems with peers tended to be worse for bullies, victims, and bully-victims, scores within each of these areas were the most extreme for bully-victims (Wolke, Woods, Bloomfield, & Karstadt, 2000).

Negative outcomes abound for students who are involved in aggression, even for those students only involved in relational aggression. Students are at greater risk for depression, anxiety, suicidal thoughts and ideation, and poor social adjustment when they are bullies, victims, or bully-victims. Appropriate identification of these students will assist future intervention.

Assessment and Identification

Several methods exist for the assessment, identification, and measurement of aggression in the school setting. Methods include self-report of aggressive behavior and victimization, questioning the teacher about aggression and victimization, and asking students to nominate their peers by asking questions about who may be aggressive or victimized on a regular basis. Several questionnaires utilizing these methods exist (Crick, 1996; Crick & Bigbee, 1998; Crick & Grotpeter, 1995; Crick, Ostrov, & Werner, 2006; Cullerton-Sen & Crick, 2005; Olweus, 2007; Solberg & Olweus, 2003; Patty & Gresham, 2011). Other options for identifying students who may be aggressive include examining Office Discipline Referrals (ODRs), Suspensions, and Expulsions (McIntosh, Fisher, Kennedy, Craft, & Morrison, 2012). Finally, conducting observations of students during times of limited supervision like recess or lunch may help to identify students who are aggressive or who are being victimized by others (Low, Frey & Brockman, 2010; Foster, 2007; Putallaz, Grimes, Foster, Kupersmidt, Coie, & Dearing, 2007).

The Olweus Bullying Questionnaire is intended for students in grade 3 or above. It is a 40-item measure that asks students to respond to questions concerning the amount of bullying and victimization issues that go on within a school. The questionnaire asks about where the most common locations are for bullying and the students' perceptions of attitudes towards bullying within their school. This questionnaire is intended to be administered each year as a part of the Olweus Bullying Prevention Program. It can raise awareness among teachers and administrators about the amount of bullying that occurs within the school and where this bullying might take place (Olweus, 2007; Solberg & Olweus, 2003). This questionnaire is likely one of the best known bullying questionnaires and its definition of bullying includes behaviors consistent with both physical aggression and relational aggression.

While the Olweus Bullying Questionnaire is well-known and widely used, it is also lengthy and completed only by students. Crick and colleagues (Crick, 1996; Crick & Bigbee, 1998; Crick & Grotpeter, 1995; Crick, Ostrov, & Werner, 2006; Cullerton-Sen & Crick, 2005) developed questionnaires to be completed by teachers and peers, in addition to students answering questions about their own experiences with bullying and victimization. Teachers rate their students, while students nominate their classmates and report about their own behavior concerning physically aggressive behavior, relationally aggressive behavior, and prosocial behavior. These questionnaires are called the Children's Social Behavior Scales and the Children's Social Experiences Scales, and are used for the identification of the use of aggressive techniques and victimization by these behaviors, respectively. The questionnaires have reliability estimates for each of the subscales (physical aggression, relational aggression, and prosocial behavior), and therefore can be administered by behavior subtype as needed. If only the relational aggression subscale is administered, the teacher-report, self-report, and peer-nominated questionnaires are between 7 and 10 items, representing a much more acceptable length. When each of the subscales are included for use, the questionnaires do not exceed 15 items.

While questionnaires are valuable for identifying student involvement in aggression, Office Discipline Referrals (ODRs) have historically been used as an indicator of levels of aggression within the school setting. ODRs are forms utilized by school personnel to communicate behavior problems to school administrators. They are generally used when a behavior problem has occurred that warrants that the student be sent to the office for administrative involvement. This administrative involvement can come in the form of additional support to the teacher or a punitive consequence to the student (Sugai, Sprague, Horner, &

Walker, 2000). A teacher will complete an ODR to specify the nature of the behavior problem. As this is a written account of the behavior problem, it can become a record of the behavior to be examined at a later date to determine whether the behavior was of an aggressive nature. Furthermore, after an intervention is put into place, the rate of ODRs can be evaluated to determine whether there is a reduction in the number of times the student is referred to the office.

Most schools are required to collect and summarize information concerning ODRs, suspensions, and expulsions (McIntosh et al., 2012). The availability of this type of information contributes to the appeal of using ODRs as data. Another reason for the appeal of this type of data is that it generally comes to represent low-frequency, high-intensity behavior that may be difficult to observe. However, data on school discipline may have poor reliability and some students in the school population are often overrepresented (Sprague & Horner, 1999).

Questionnaires and ODRs can be used to get some idea of the amount of aggression occurring in schools and which children may be involved, but observations of these behaviors give the most unbiased indication. Clearly, physical aggression is an easier phenomenon to observe, as physical aggression generally involves some overt harmful behavior (Cillessen & Mayeux, 2004). However, many recent studies have utilized direct observation for the identification and measurement of relationally aggressive behaviors (Putallaz et al., 2007). There are some environments and some relationally aggressive behaviors that are amenable to direct observation methodology (Foster, 2004; Low et al., 2010). For example, Foster (2004) demonstrated that gossip can be observed through observational methodology. Low and colleagues (2010) further made it clear that peer interactions observed while children were playing on the playground at recess could be coded for some forms of relationally aggressive behaviors, particularly gossiping about other students and leaving other students out. When the

research method is amenable to the inclusion of observational data, this observational information can be beneficial.

Ideally, assessment and identification of aggression including use of questionnaires, perusal of ODRs, and systematic direct observations would have few flaws; however, many issues exist in the assessment of aggression, particularly at school. Without valid and reliable assessment, scientific progress cannot be made, and no intervention effort can be accurately evaluated (Cornell & Cole, 2012). The first major problem with assessment within this field concerns definitions. There is a lack of consensus on a definition of bullying in general, and of relational aggression specifically. A major problem is that aggression is often not defined adequately for individuals completing questionnaires. Furthermore, relational aggression is often called indirect aggression or social aggression, and both of these terms also come with their own slightly different definitions. Without a consensus on definition, comparing results of studies using different assessment measures becomes impossible, as they all may be comparing slightly differing constructs (Cornell & Cole, 2012). Another issue arises from students' difficulty identifying what bullying is. This is related to the first issue, that there is no real consensus on a definition; as a result students tend to report lower rates of bullying when they are given a specific definition of bullying (Cornell & Cole, 2012; Vailancourt et al., 2010). A further issue addressed by Cornell and Cole (2012) is that with the recent burst of interest in this field, there are now many types of bullying that each need researching to determine the necessity for differential assessment and intervention efforts. For example, the difference between physical aggression and relational aggression has been demonstrated in research (Little, Jones, Henrich, & Hawley, 2003), but other, more subtle differences between constructs have yet to be examined. For example, cyber-bullying and relational aggression are often studied separately, but may share

enough variance that they should be assessed and intervened on together. Furthermore, aggression specific to sexual orientation may share more variance with physical aggression or relational aggression, but these relationships have not been examined to the extent that they should be. These types of aggression may be so similar that they can be considered to be the same constructs, or they may be unique and require their own assessment and intervention efforts (Cornell & Cole, 2012).

Because of these assessment issues, only classic relationally aggressive behaviors including gossiping, social exclusion, spreading rumors, and ignoring others will be targeted in the current research. Furthermore, teachers and students answering questions throughout this research study will be given specific definitions of relational aggression. Finally, only instruments with available reliability and validity data will be utilized.

Tiered Delivery System

The current standard for service delivery within schools includes the use of a tiered system of support for students. This model was originally conceptualized by Walker, Horner, Sugai, and Bullis (1996). All students in the school participate in the first tier of support, often referred to as universal prevention or Tier I. This primary level of support is intended to prevent the development of adverse or problematic outcomes; it is expected to be effective for approximately 80% of students within the school population. For those students that do not respond to Tier 1, more targeted levels of support exist. The second level of support is intended for those students who remain at risk after universal or primary intervention. This second level of support is often referred to as targeted intervention or Tier II. Targeted interventions are expected to be effective for about 15% of students. Finally, for students who do not benefit from Tier II interventions, more intensive services can be applied. These intensive services are

individualized to the student's needs. This third level of support is often called tertiary intervention or Tier III. This paper is primarily focused on interventions at the Tier I and Tier II levels of support (Walker, Horner, Sugai, & Bullis, 1996; Walker & Shinn, 2010).

As stated previously, almost all of the interventions that have been developed for children displaying aggressive behaviors are considered to be preventive, or Tier I interventions. They are applied to entire classrooms or schools, and every student participates. In only two cases have more targeted interventions been developed for relational aggression. Even though only some children within the school participate in these more targeted interventions, the authors of these intervention programs still consider them to be preventive in nature. These interventions do not target students who are at risk for being relationally aggressive, but in both cases they only include girls, who already exhibit relationally aggressive behaviors and may be more at risk for displaying more severe behaviors.

Interventions

In general, research on the effectiveness of interventions for aggressive behaviors has been conducted on preventive interventions for physical aggression (Leff, 2007; Leff, Waasdorp, & Crick, 2010). There are some exceptions, though very few. When the effectiveness of an intervention has been evaluated for relational aggression, often researchers have simply applied an intervention developed for physical aggression to the problem of relational aggression (Leff et al., 2010). Preventive interventions for relational aggression will be described, followed by any targeted interventions that have been developed and evaluated for relational aggression.

Preventive. One of the prevention programs that has been applied to relational aggression is the Early Childhood Friendship Project (Ostrov, Massetti, Stauffacher, Godleski, Hart, Karch, et al., 2009). This program is intended to reduce physical aggression, relational

aggression, and peer victimization. It has the additional goal of increasing prosocial behaviors. The program is 6 weeks long and includes 3 ten-minute activities and 3 one-hour reinforcement sessions per week. The program is manualized and should be implemented by master's level clinicians, or clinicians in post-college training programs. As this program is intended for very young children (ages 3-5), it includes a puppet show and activities during which the children can participate. A large, multisite evaluation of this program was conducted by Ostrov and colleagues in 2009. Observations of behavior were conducted, during which observers looked specifically for aggressive behaviors. Furthermore, teacher ratings of prosocial behavior before and after the implementation of the program were evaluated. The program was moderately effective at reducing physical aggression and increasing teacher ratings of child prosocial behavior. The program was very effective at reducing relationally aggressive behavior and physical victimization, but only slightly effective for reducing victimization by relational aggression. This program is promising for the universal prevention of aggressive behaviors, though results were only reported for observational methods and teacher report of prosocial behavior. No longitudinal or maintenance data are available.

Another preventive, classroom intervention for the treatment of relational aggression (specifically social exclusion), is You Can't Say You Can't Play. This intervention is based on a children's book by the same name. The program includes between 8 and 10 sessions dispersed over 6 to 8 weeks for students in kindergarten. It includes the implementation of the classroom rule "you can't say you can't play," role play, and group discussions. The rule states, quite literally, that children are not allowed to tell other students that they cannot play with them; consequences exist for children who are overheard by teachers excluding students from group activities. Harrist and Bradley (2003) evaluated the effectiveness of this intervention. They

found no changes in observed social exclusion or in teacher reports of this behavior; however, children in the intervention group did report liking each other more post-intervention. Interestingly, students in the intervention group also reported more dissatisfaction with their peer relationships. This program requires further research, as no reduction in social exclusion was demonstrated.

I Can Problem Solve (ICPS) is a preventive intervention that was developed for physical aggression but that has been applied to relational aggression (Boyle & Hassett-Walker, 2008). The target age group for this intervention is kindergarten through the early elementary years. The intervention is intended to last for two years. Teachers are instructed in the implementation of the program and manuals are available. General problem-solving skills are taught to students with the assumption that this skill set can reduce physical and relational aggression. Boyle and Hassett-Walker relied solely on teacher reports of aggressive behavior before and after implementation of the intervention. The intervention increased rates of prosocial behavior within the classroom and decreased rates of relational and physical aggression, though the effects were more pronounced for physical aggression.

Walk Away, Ignore, Talk, Seek Help (WITS; Leadbetter, Hoglund, & Woods, 2003) is a program that was developed to reduce victimization by reducing relationally aggressive behaviors in students in kindergarten through third grade (Leff et al., 2010). WITS includes a parent and sibling component which has been supported by research as improving the effectiveness of interventions for relational aggression. Children are taught skills that encourage emotional competence and increase social responsibility. Leadbetter and colleagues (2003) evaluated the effectiveness of this intervention over the course of three years and moderate reductions in relational victimization were noted.

Making Choices: Social Problem Skills for Children (MC; Fraser, Day, Galinsky, Hodges, & Smokowski, 2004) relies on Social Information Processing theory (Crick & Dodge, 1994) to teach children about hostile attributions and making good choices in social situations. Fraser, Galinsky, Smokowski, Day, Terzian, Rose, and colleagues (2005) evaluated this program's effectiveness in reducing relationally aggressive behaviors. Implementation of this intervention resulted in moderate decreases in teacher reported use of relationally aggressive behavior and increases in teacher reported prosocial behavior.

Friend to Friend (F2F; Leff, Gullann, Paskewich, Abdul-Kabir, Jawad, Grossman et al., 2009) is a preventive intervention intended to reduce both physically and relationally aggressive behaviors, improve students' abilities to problem solve, and increase prosocial behaviors. Leff and colleagues (2009) evaluated the effectiveness of this intervention by observing students and using peer-nomination measures of aggression and other sociometrics before and after intervention implementation. After the intervention, girls who were relationally aggressive at the beginning of the study had increases in peer-likability and decreases in the peer-reported use of relational aggression. Moderate reductions were observed in the use of physical aggression. No meaningful change was found on measures of depression post-intervention.

The final major research conducted on preventive interventions for relationally aggressive behavior is the Second Step program (Van Schoiack-Edstrom, Frey, & Beland, 2002). The goal of this program is to improve student's social competence and to decrease rates of physical aggression; however, this program has been applied to the problem of relational aggression. In a three year study of students in grades 6 through 8, improvements were found in students' attitudes towards social exclusion and verbal derogation.

Targeted. Only two targeted interventions have addressed the problem of relational aggression, and these are not targeted interventions in the traditional sense, but pull-out groups. In fact they have been defined as preventive interventions rather than targeted interventions (Leff et al., 2010); however, because they target only a select subgroup of students, rather than the entire school population, here they will be considered targeted interventions.

The first is a program entitled Social Aggression Prevention Program (SAPP; Cappella & Weinstein, 2006). This program targets only fifth grade girls. The program involves students meeting in a group format for 10 sessions and aims to reduce relationally aggressive behaviors among girls while increasing levels of empathy, social problem-solving skills, and levels of prosocial behavior. The SAPP program was compared to a Reading Club group; no differences were found between rates of teacher-reported social aggression or prosocial behavior post-intervention. Moderate effects were demonstrated on social problem-solving skills for girls in the SAPP group compared to the reading control group.

The second targeted intervention is called Sisters of Nia (Belgrave, Reed, Plybon, Butler, Allison, & Davis, 2004). This intervention program is highly targeted. The program is designed for African American female adolescents; the program focuses on gender roles, social behavior, and specifically addresses ethnic identity. It is intended to run for 15 weeks with a tutoring component for 30 weeks. The program briefly addresses relational aggression by teaching group members to foster positive relationships among females in the group and attempting to reduce negative interactions. Belgrave and colleagues (2004) evaluated the effectiveness of this intervention on many outcome variables; moderate reductions were observed in self-reported levels of relationally aggressive behaviors.

Effectiveness of Interventions

The preventive and targeted interventions addressed above generally had moderate effects; however, some large effects were reported, as well as some negligible effects. The meta-analyses available on this topic disagree on the effectiveness of interventions for aggression in general and relational aggression in particular. For example, Merrell, Gueldner, Ross, and Isava (2008) reviewed 16 studies on interventions for aggressive behavior and found meaningful, large positive effects for only one-third of the studies. About two-thirds of these studies had a very small positive effect, but Merrell reported these to be "too weak to be considered meaningful" (Merrell et al., 2008, p. 38). A small percentage of the interventions included in this meta-analysis resulted in negative effects, with one study reporting a large, negative effect.

A more recent meta-analysis conducted by Farrington and Ttofi (2009) found more positive results for bullying interventions. The authors reviewed 36 of the best quality studies on universal anti-bullying programs and found that they reduced school bullying and victimization by 20-23%. The authors of this meta-analysis conclude that overall, programs are effective and that the field has improved to a point of reducing school bullying through the use of interventions. It is important to note that of the 36 interventions reviewed by Farrington and Ttofi (2009), 19 of them were actually effective in reducing aggressive behaviors. Seventeen of these programs were found to be ineffective. Although the odds ratios calculated within this meta-analysis placed the effectiveness of interventions in a favorable light, only about half of the interventions included were effective. More research is needed on the topic of universal interventions for relational aggression.

Farrington and Ttofi (2009) also included a qualitative analysis of the programs included in their meta-analysis to further elucidate which components may be necessary or helpful in the

utilization or designing of interventions for aggressive behavior. They suggested that the inclusion of many elements rather than few elements and interventions of longer duration were the most effective. This was true for the reduction of both bullying behaviors and victimization. Furthermore, the authors found that parental involvement as a part of the intervention was the most important element of all, as this predicts the greatest reduction in bullying behaviors.

Finally, Leff (2007) suggested several other components that should be included in interventions for relational aggression. Leff suggested that, if possible, the student's social status and influence with peers should be used to the interventionist's advantage when designing interventions. This may be done by pointing out to the student that he or she has a great amount of social influence, and encouraging and rewarding that student for using his or her influence for positive social change. For example, encouraging these students to stand up for other students who are being bullied, and then reinforcing this behavior when it occurs, can help a child with high social status learn how to positively use the influence he or she has. Leff further suggested that including a parental component and/or a teacher component can be beneficial for children involved in relational aggression. Including a parent or teacher component can be as simple as having parents come to treatment sessions with their children or including teachers in the delivery of interventions. This suggestion is in line with the suggestions made by Farrington and Ttofi (2009).

Check-in/Check-out Intervention

One possible intervention that incorporates many of the suggested components for effective intervention with children who are relationally aggressive is the Behavior Education Program (BEP; Crone, Hawken, and Horner, 2010), also commonly called Check-in/Check-out (CICO). The CICO intervention was designed as a targeted, Tier II intervention. This

intervention provides students with relatively immediate feedback on their behavior throughout each school day. Before school, students meet with an assigned adult mentor to discuss behavioral goals for that day. Throughout the school day, students carry a Daily Progress Report (DPR), to be filled out by teachers after every class period or during natural breaks in the day. The DPR lists positive behaviors that act as targets or goals for how the student should behave, along with a list of designated class periods during which behavior should be monitored and feedback should be provided by the teacher. After school, students meet with the same mentor to discuss behavior throughout the day and whether goals were met. Tangible rewards and social praise are generally given when goals are achieved. The DPR is then sent home with students to be signed by a parent.

Hawken and Horner (2003) evaluated the effectiveness of CICO on reducing problem behaviors in the classroom. These problem behaviors included talking out, talking back, being out of seat, using inappropriate language or gestures, not following teacher directions, and physical aggression such as hitting or kicking. Overall, results demonstrated that both the rate and variability of problem behavior was reduced by CICO. In other words, students tended to act out less and to behave more consistently while on the CICO intervention plan. Specifically, the rates of Office Discipline Referrals were reduced for students subjected to this intervention. One take-away point is that, by reducing the number of Office Discipline Referrals handed out, the overall rate of problem behavior in the classroom was reduced, and the amount of time the teacher was able to spend teaching increased. Furthermore, the authors found that CICO increased academic engaged time and decreased variability in academic engaged time across all participants.

Hunter and Gresham (2013) evaluated the effectiveness of CICO on reducing maladaptive internalizing behaviors in students during the school day. They followed the protocol laid out by Crone, Hawken, and Horner (2010), with the addition of a cognitive-behavioral component that included adult mentors helping target students with problem solving as well as identifying and challenging automatic negative thoughts. This may have increased the time devoted to checking in and checking out with the student, but by very little. Overall, Hunter and Gresham (2013) demonstrated that a cognitive-behavioral component could be added successfully and retain acceptability and feasibility. Furthermore, they demonstrated that internalizing behaviors such as anxiety can be reduced by implementing the adapted CICO intervention. Additionally, the authors of this study demonstrated an increase in prosocial behaviors according to teacher report.

Based on the previous research, CICO may be a viable option for intervening with children who display relationally aggressive behaviors at school. It has been shown to reduce externalizing problem behaviors such as aggression, as well as internalizing behaviors like anxiety, both of which have been shown to be related to relational aggression. Furthermore, this intervention has been demonstrated to increase use of prosocial behaviors. Applied to relational aggression, CICO has the potential to decrease targeted problem behaviors such as gossiping and excluding others while also increasing prosocial behaviors.

This intervention specifically includes many of the suggestions made by Leff (2007) and Farrington and Ttofi (2009) concerning what works best when intervening on aggressive behaviors. Most importantly, this intervention includes a parental component: the form used throughout the school day is sent home to the child's parent to be signed and returned to school the following day. If the child's behavior was in line with goals for the day, reinforcement and

positive praise should be given by the parents at home in addition to the reinforcement received at school. Due to Farrington and Ttofi's (2009) finding that parental involvement in interventions is the single most important component to include when intervening on aggression, the inclusion of this component within the intervention chosen for the current research was of paramount importance.

The intervention also includes a large teacher component; Leff (2007) suggested that this could be beneficial for students involved in relational aggression. Furthermore, this intervention has many components: an adult mentor, the teacher, and the child's parents are all involved in reinforcing the targeted child's improved behavior, precorrection is used to remind the child before school of the behaviors on which he or she should be focusing, and feedback is given to the child throughout the day in addition to reinforcement or rewards for meeting the daily goal. This multicomponent approach is in line with the findings of Farrington & Ttofi (2009) that interventions with many components were more effective than interventions with fewer components. Despite Farrington and Ttofi's (2009) finding that longer interventions were more effective than shorter interventions, within this study the CICO intervention will run for a short period of time. However, many of the interventions reviewed by Farrington and Ttofi (2009) were implemented for only 30 minutes a day or a week; this intervention was ongoing throughout the day, each day for 4 school weeks. Depending on how "duration" is conceived, this intervention could be of equal or longer duration than other interventions. Furthermore, if effects are found after running this intervention for a short period of time, it will bolster the potential usefulness of this targeted intervention. Overall, the CICO intervention meets many, if not all, of the suggested best practices for interventions with children exhibiting relationally aggressive behaviors.

The purpose of the current study was to evaluate the effectiveness of the CICO intervention when applied to children who display relationally aggressive behaviors. A secondary goal was to evaluate the overall reduction in victimization that may occur throughout the entire grade in which this intervention was implemented. Specifically, children engaging in high rates of relation aggression were targeted, and reported levels of victimization by relational aggression were measured not only from children who were directly exposed to this intervention, but also from other children throughout the grade. Our research questions were twofold: (a) Can use of the CICO intervention reduce the levels of relationally aggressive behaviors in targeted children? (b) Can the effects of this intervention be felt throughout the grade in self-reported rates of victimization by relational aggression? Based on the literature review, the first hypothesis was that implementation of the CICO intervention would decrease problem behaviors associated with relational aggression, such as gossiping and social exclusion. This hypothesis was evaluated by teacher-reported and self-reported levels of relationally aggressive behaviors for participants both before and after the implementation of the CICO intervention. The second hypothesis was that self-reported rates of victimization by relationally aggressive behaviors would be reduced throughout the grade as a result of implementing the CICO intervention. This hypothesis was evaluated by the administration of a short questionnaire specifically addressing instances of victimization within the previous four weeks.

Method

Research Design

The current study was a 2 (treatment condition vs. delayed-treatment control condition) x 3 (time 1 vs. time 2 vs. time 3) mixed factorial design. The study included both a between-subjects and a within-subjects component. The between-subjects component is the intervention itself; the intervention was applied to those in the treatment condition between pre and post measures, and the intervention was applied to those in the delayed-treatment control condition between the post and maintenance measures, in reference to the treatment condition. This created a true split-plot design (diagramed in Figure 1). The within-subjects component is time; measures pertinent to relational aggression were administered to all consenting participants and their teachers before intervention, after intervention, and one month following intervention, again, in reference to the treatment school. The delayed-treatment school completed measures one month prior to treatment, directly before commencing treatment, and immediately following treatment. The benefit to this type of design is that any effects found in the treatment condition have the opportunity to be replicated in the delayed-treatment condition. If treatment effects were replicated, perhaps true randomization of participants would not have been necessary. Furthermore, the delayed-treatment condition is exposed to the treatment they were promised, and maintenance effects had the opportunity to be evaluated in the treatment condition.

This is considered a quasi-experimental, quantitative research design. Ideally, we would have randomized each child to either the treatment condition or the delayed-treatment control condition. As is the nature of schools, however, in the middle of the school year students were already assigned to classrooms within schools, and therefore true random assignment was

impossible. In an effort to improve the validity of the results, each school was randomly assigned to condition by the flip of a coin.

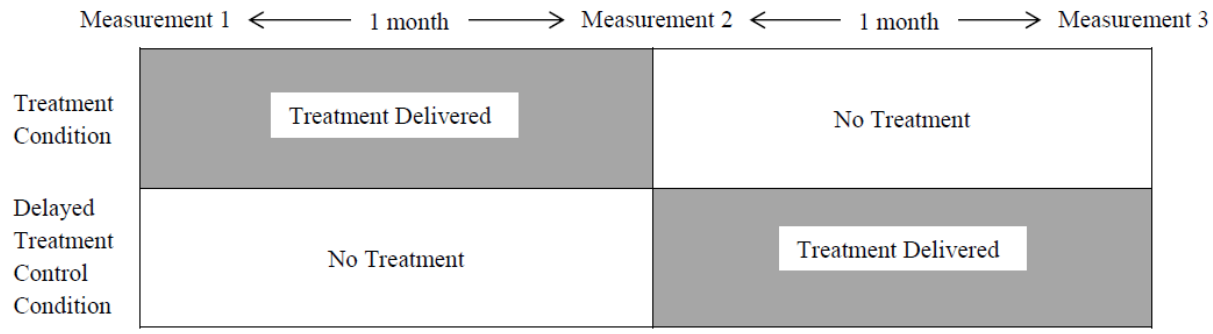

Figure 1. Pictorial representation of the split plot design.

Participants

Participants were consenting students from the fifth grade at three elementary schools in East Baton Rouge Parish. In total, 93 children consented to participate in this research project. Complete data sets were collected for only 58 of these students (62.3%). When parents consented, but children did not complete questionnaires for the first phase of data collection, these students were not included in the remainder of the data collection process. Of these 58 students, 32 children actively participated in the CICO intervention. Seventeen students from one school made up the Treatment Condition, while 15 students participated from two schools to make up the Delayed-treatment Condition. One student (6%) in the treatment condition was expelled from school between time two and time three of data collection; therefore this child's dataset is incomplete. However, pretreatment and post treatment measures were completed with this student. A G-Power analysis was computed before the initiation of this project which indicated that a total sample size of 30 was necessary for the current project; therefore, requirements related to power were met. Within the full sample of 58 students, 21 (36.2%) were

male and 37 (63.8%) were female. The mean age of this sample was 10.66, with a range of 10 to 12. Within the intervention, 9 (28.1%) students were male, and 23 (71.9%) were female. The mean age of those who participated in the intervention was 10.69, with a range of 10 to 12.

There were some significant differences before the intervention was implemented between the treatment condition and the delayed-treatment condition that should be addressed. Teachers in the delayed-treatment schools tended to rate their students as displaying or experiencing problem behaviors significantly more often than did teachers in the treatment school across the board (e.g., relational aggression, physical aggression, overall problem behaviors). However, no significant differences were observed between groups in the way students responded to similar questions. There were no significant differences between groups in sex, grade, or days receiving treatment.

This project was approved by the Institutional Review Board prior to collecting data (Appendix A). Both active parent consent and child assent were obtained before carrying out this research project. Parental consent forms were sent home with each child in the fifth grade at each of the schools selected for participation. This form explained the purpose of the research and all risks and benefits associated with it. Parents were asked to sign and return this form indicating whether or not they gave their permission for their child to participate. Before the first data collection session, participating students had the current study briefly explained to them, and had the opportunity to ask any questions directly to the graduate student associated with this project. They then indicated whether they wished to participate by circling *yes* or *no* on the form and then signing their names. Parental consent and child assent forms can be found in Appendix B. Two students in the current project whose parents consented denied their own assent to participate.

Measures

Identification of Relational Aggression. The Children's Social Behavior Scales and the Children's Social Experiences Scales, previously developed and used in research by Crick and colleagues (Crick 1991; Crick, 1996; Crick & Bigbee, 1998; Crick & Grotpeter, 1995; Crick, Ostrov, & Werner, 2006; Cullerton-Sen & Crick, 2005), were used both to identify children engaging in relational aggression more than their peers and to evaluate change after the completion of the intervention for the current research. The Children's Social Behavior Scale identifies children engaging in relationally aggressive behaviors. The Children's Social Experiences Scale identifies children being victimized by relationally aggressive behaviors. Crick has developed teacher, self, and peer-report measures; only the teacher-report measure and the self-report measures were used for the current project. Subscales included in each of these measures cover relational aggression, physical aggression, and prosocial behavior. These scales can be found in Appendix C. The details of these scales are found below.

Self-Report. The Children's Social Behavior Scale (Crick, 1991; Crick & Grotpeter, 1995) and the Children's Social Experiences Scale (Crick & Grotpeter, 1996), self-report, were completed by students each time data was collected in this project. The behavior scale identifies children who admit to engaging in relationally, physically, or verbally aggressive behaviors, or who endorse regularly using prosocial behaviors or to feeling lonely. This questionnaire has fifteen items. The experiences scale identifies children who feel they are being victimized by relational or physical aggression, or believe they often receive prosocial behaviors from others. The experiences scale also has fifteen items. The Children's Social Behavior Scale, self-report, has a Cronbach's α of .83. The subscales of the behavior scale have factor loadings between .77

and .84. The Children's Social Experiences Scale, self-report, has a Cronbach's α of .86 and factor loadings of between .60 and .79.

Teacher-Report. The Children's Social Behavior Scale (Crick, 1996) and the Children's Social Experiences Scale (Cullerton-Sen & Crick, 2005), teacher-report, were completed by teachers each time data was collected during the course of this project. The behavior scale asks teachers to rate thirteen items per student. This scale is meant to identify students engaging in relational aggression, physical aggression, or students who are regularly using prosocial behaviors. The experiences scale asks teachers to rate seven items per student. This scale is meant to identify students being victimized by relational aggression, physical aggression, or those students on the receiving end of prosocial behaviors. The Children's Social Behavior Scale, teacher-report, has a Cronbach's α of .83. The subscales of the behavior scale have factor loadings ranging from .63 to .83. The Children's Social Experiences Scale, teacher-report, has a Cronbach's α of .82.

Problem Behaviors Scale of the Social Skills Improvement System – Rating Scales. The Social Skills Improvement System – Rating Scales (SSIS-RS; Gresham & Elliott, 2008) is a set of questionnaires to be filled out by parents, teachers, and students. For the current project, only selected questions from the rating scales were used in hopes of reducing teacher fatigue and frustration, and only teachers and students answered these questions. The Problem Behaviors Scale was completed by both teachers and students at each time that data was collected throughout this project. The internal consistency of the Problem Behavior Scale for the teacher rating form is $\alpha = .95$; the test-retest reliability for the same scale and rater is $r = .81$; finally the interrater reliability is $r = .57$. For the Problem Behaviors Scale, student rating form, internal consistency is $\alpha = .94$ and the test-retest reliability is $r = .74$. For evidence that this Problem

Behaviors Scale has convergent validity with another scale, the developers correlated the SSIS-RS with the Behavior Assessment System for Children, Second Edition (BASC-2). The correlation between the scale being used in the current project and the BASC-2 for the age group of interest is r = .87. The Problem Behaviors Scale of the SSIS-RS represents a reliable and valid measure.

Victimization Experiences in the Previous Month. Students answered two pointed questions each time data was collected concerning the number of times they had experienced victimization by a relationally aggressive behavior in the previous month. The time-frame of one month mapped on to the amount of time the intervention was implemented. Students responded to questions concerning the number of times another student gossiped or spread rumors about him or her and the number of times another student ignored or left him or her out of a group activity within the previous month. This questionnaire, which was designed for the current project, can be found in Appendix D.

Treatment Integrity. Treatment integrity was taken for CICO mentor meetings. After a task analysis of the CICO intervention, treatment integrity forms were created for both the check in and the check out meetings. The forms include a checklist of the responsibilities of the mentor. An independent observer conducted treatment integrity one time per week for check in and for check out. In all, for the each condition 8 out of 40 (20%) meetings between the mentor and students were observed. Treatment integrity was 100% for student/mentor meetings.

Furthermore, direct observations were completed to ensure that teachers implemented the intervention with integrity. Specifically, teachers were expected to provide feedback to each student participating in this intervention at the end of each designated class period. If treatment integrity for any teacher fell below 80%, performance feedback was provided to the teacher on

missing components of the intervention. After receiving performance feedback, that teacher was observed again during the same school week to ensure performance improved. For the treatment condition, each teacher was observed at least one time per week. Three of the five teachers implementing this intervention in the treatment school had 100% integrity each time they were observed, and so never received performance feedback. Two of the five teachers received performance feedback several times throughout the intervention period. At the treatment school, treatment integrity ranged from 50% to 100% with a mean of 94%. In the delayed-treatment condition, three of the four teachers received performance feedback at least one time. Treatment integrity ranged from 0% to 100% in the delayed-treatment condition, with a mean of 88%. Across conditions, treatment integrity ranged from 0% to 100% with a mean of 91%. The DPR served as a permanent product of the integrity of the intervention, as well. Each child in the intervention had a completed DPR for each day treatment was completed. Treatment integrity forms can be found in Appendix E.

Intervention Rating Profile-15. The Intervention Rating Profile-15 (IRP-15; Witt & Elliot, 1985), was completed before and after treatment for each condition. This questionnaire evaluates the acceptability of an intervention from the user's perspective. The questionnaire consists of 15 items and was completed by each teacher for the current project. Teachers responded to questions on a six point Likert scale, ranging from 1 (*strongly disagree*) to 6 (*strongly agree*).

The average IRP-15 score before treatment began across conditions was 5.07 out of 6. The average score following treatment across conditions was 4.83 out of 6. Each of these numbers represents that CICO is an acceptable intervention according to teachers; however, after teachers used this intervention for the behavior of relational aggression, they tended to rate this

intervention lower. It should be noted that many of the teachers in each condition had experience using CICO prior to this project; the only change for this project was the application of this intervention for the problem of relational aggression.

Procedure

Permission was obtained from the principals of the schools selected to conduct this research within their fifth grade classrooms. After the principals understood the purpose of the research and agreed to participate, the primary researcher solicited a meeting with the fifth grade teachers within the three participating schools. At this meeting, the purpose and procedures of this research project were explained. Following this meeting, consent forms were sent home to the students in these fifth grade classrooms. Students who did not return consent or whose parents denied consent were not included in this research project. An effort was made to include all students who returned both an affirmative consent form and the completed measures for the first phase of data collection in all three phases of data collection. Child assent was obtained immediately prior to the first wave of data collection.

The primary researcher was involved in collecting all of the measures from every student and teacher in the sample. During the first wave of data collection, teachers completed the Children's Social Behaviors Scale, teacher-report, the Children's Social Experiences Scale, teacher-report, and the SSIS-RS, teacher-report while their students completed the Children's Social Behaviors Scale, self-report, the Children's Social Experiences Scale, self-report, the SSIS-RS, self-report, and the Victimization in the Previous Month Questions. Fifth grade students throughout this project were capable of reading and completing questionnaires; however, either the primary researcher or a graduate student familiar with this project was present at each phase of data collection to answer questions should they arise.

After this first wave of data was collected for each participating student, the pre-intervention data was partially analyzed in order to identify those students using relationally aggressive behaviors more often than their peers. Specifically, the Children's Social Behaviors Scale, both teacher-report and self-report was analyzed, and students scoring above their respective class mean participated in the CICO intervention. To enhance teacher acceptability of this process, when discrepancies arose between student and teacher reports of relational aggression, we erred on the side of choosing students with elevated levels of relational aggression as reported by the teacher. Students in the treatment condition began the intervention immediately following pre-treatment data collection and analysis; students in the delayed-treatment control condition waited one month following pre-treatment data collection to begin treatment. The primary researcher contacted the parents of the students targeted for treatment to let them know that their child would be participating in CICO.

The CICO intervention was described in some detail previously. The primary researcher or one of two other graduate students familiar with the CICO protocol served as the targeted students' mentor. Each day before school, the targeted students met individually with the mentor to review the previous day's behavior and to address behavioral goals for the day. For the current research, behavioral goals were directly related to relational aggression. For example, behaviors such as gossiping about other students, leaving other students out, spreading rumors, behaving prosocially towards other students, and ignoring other students, were targeted. In order to increase the palatability of this intervention to the participating teachers, a behavioral goal focused on appropriate classroom behavior was added to each DPR early in treatment. Each targeted behavior was listed on the Daily Progress Report (DPR), which was given to the targeted students each day before school. An example DPR can be found in Appendix F. For

each student, the school day was divided into class periods, during which the student's behavior was evaluated by his or her classroom teacher. At the end of the day, the student again met with the mentor, and his or her behavior throughout the day was discussed. If the number of points earned on the DPR matched or exceeded the goal number of points set by the mentor and student prior to the start of the school day, the student earned a praise and a reward. If the student did not meet his or her goal, problem times of the day or behaviors on which he or she particularly struggled were discussed. The DPR was then sent home to the student's parent to be signed and returned the next day. Students earned an extra reward during check in the next day for returning with a signed DPR. Parents were encouraged to reward and praise their children for meeting or exceeding point goals each day.

The CICO intervention was carried out for one month, four weeks, or twenty school days. As this was a group design project, any day that an individual student was absent during treatment still counted towards the total intervention days; however, if school was out of session for a holiday or other reason, those days did not count towards the total intervention days. In other words, the intervention lasted for twenty regular school days, regardless of whether each and every student involved in the intervention was present in school. Under no circumstance did the intervention last longer than twenty school days.

At the end of the twenty days of intervention, the second wave of data collection took place at both schools. Teachers again completed the Children's Social Behaviors Scale, teacher-report, the Children's Social Experiences Scale, teacher-report, and the SSIS-RS, teacher-report while her students completed the Children's Social Behaviors Scale, self-report, the Children's Social Experiences Scale, self-report, the SSIS-RS, self-report, and the Victimization in the Previous Month Questions.

At this point, the students in the delayed-treatment control condition who were originally identified as being one of the students within their class using relationally aggressive tactics more often than their peers received the CICO intervention. The procedure for this group was exactly the same as it was for the treatment group: the primary researcher or one of two other graduate students served as the mentor, and the intervention continued for twenty school days. It should be noted that for the delayed-treatment schools, CICO had to be completed at two separate schools. These schools were physically close to one another which improved the primary researcher's ability to carry out this intervention at both schools. Furthermore, the classroom schedules at each school were different enough that each school had preferred times for CICO that did not conflict with one another. While this schedule was hectic, it was not impossible for the primary researcher to serve as the mentor for participating students at both delayed-treatment schools. Finally, the primary researcher served as the only mentor at one of the schools, while mentoring duties were shared between three graduate students at the other school during the delayed-treatment schools' intervention phase.

After the students in the delayed-treatment control condition completed the CICO intervention, the third and final wave of data collection took place, again at all three schools. Teachers and students completed all of the same measures that they completed in the two previous data collection sessions.

While this was the organization of the data collection and intervention delivery for the current research project, it should be noted that schools preferred different times of the spring semester for participating in this research. A flip of the coin chose which school would be the treatment school; however, the treatment school also preferred to begin this research project in February. The project lasted through April in the treatment school. Delayed-treatment schools

began participation in March; for the delayed-treatment schools, the project ran through the beginning of May. So while the design was carried out as described above, data collection and intervention did not completely map on to one another at the treatment and delayed-treatment schools.

Results

Data was analyzed using PASW Statistics 18 package. Repeated Measures ANOVAs were conducted on the variables of interest. Validation of hypotheses was indicated if a significant time by group interaction was present for scores on the relational aggression subscale of the Children's Social Behaviors Scale and for instances of victimization in the previous month.

A repeated measures ANOVA revealed a significant time by treatment interaction for the self-report relational aggression subscale of the Children's Social Behaviors Scale, $F(2, 29) = 4.30$, $p = .018$, $\eta_p^2 = .13$. This indicates that there was a significant difference between groups over time in self-reported levels of relational aggression. Main effects of time and group were not significant. Post hoc tests revealed that no significant differences existed between measurements for the treatment group. A significant difference was observed in ratings for the delayed-treatment group between time 1 ($M = 13.20$, $SD = 1.49$) and time 2 ($M = 11.67$, $SD = 1.55$), $p = .026$. This result indicates that the delayed-treatment group reported a significant decrease in relationally aggressive behaviors before treatment began. These statistical analyses are illuminated by Figure 2, which reveals that while an interaction exists, students within the treatment group report elevated scores over time (indicating more relationally aggressive behaviors) and the delayed-treatment group reported a decrease in scores before treatment was put into place.

To further evaluate this hypothesis, a repeated measures ANOVA was computed on the teacher-report relational aggression subscale of the Children's Social Behaviors Scale. Mauchly's test of sphericity was significant, and therefore the Greenhouse-Geisser correction was applied to subsequent analyses. Analyses revealed a non-significant time by group

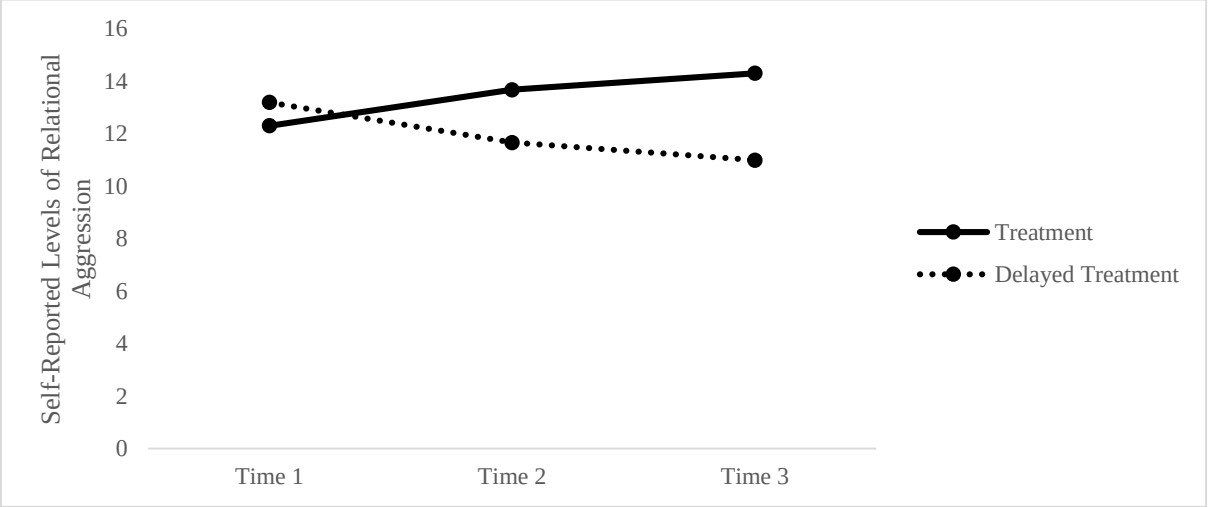

Figure 2. The interaction between group and time on the number of self-reported relationally aggressive behaviors.

interaction, F (1.65, 29) < 1, p = .481, η_p^2 = .02. This indicates that no significant differences existed between groups over time in relationally aggressive behaviors according to teacher report. Main effects of time and group were also not significant. Post hoc analyses revealed that no significant differences existed between measurements for the treatment group. A significant difference was observed for the delayed-treatment group between time 2 (M = 14.40, SD = 1.32) and time 3 (M = 12.87, SD = 1.39), p = .017. A significant difference between mean scores was also observed for the delayed-treatment group between time 1 (M = 14.73, SD = .83) and time 3 (M = 12.87, SD = 1.39), p = .048. The significant difference between time 2 and time 3 indicates that the delayed-treatment group reported a significant decrease in relationally aggressive behaviors following receipt of the CICO intervention. These results are illuminated in Figure 3. Figure 3 reveals that while a reduction in teacher reported relationally aggressive behaviors occurred following treatment for each condition, this reduction was only significant for the delayed-treatment condition.

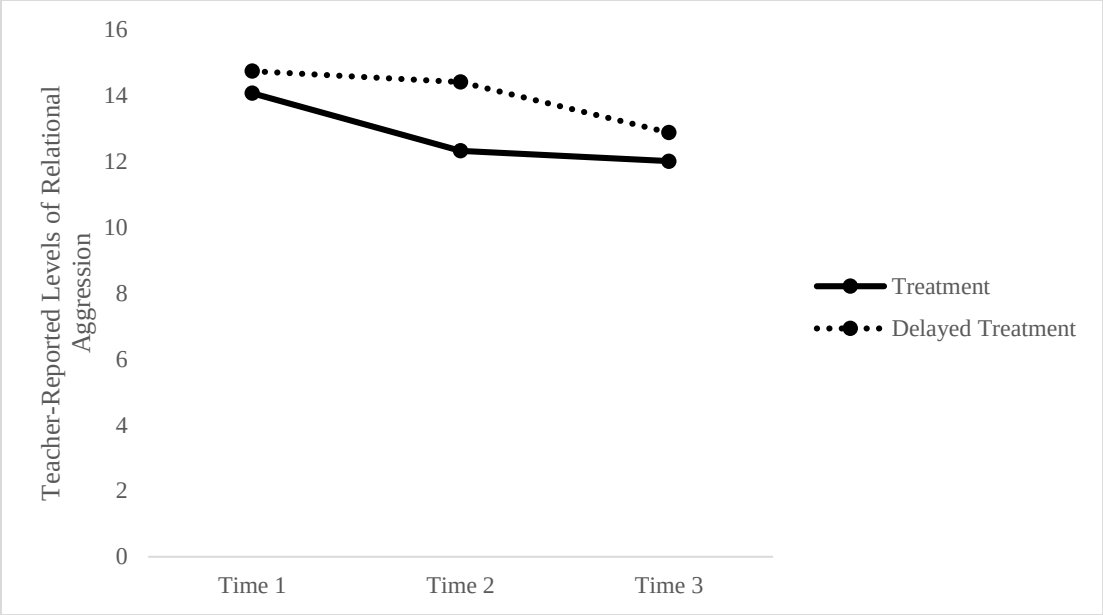

Figure 3. The interaction between group and time on the number of teacher-reported relationally aggressive behaviors.

The results demonstrate that the first hypothesis was not supported by the data. The application of the CICO intervention did not result in a statistically significant reduction in relationally aggressive behaviors over time according to students or teachers in either the treatment or delayed-treatment schools.

The second hypothesis was that changes would be observed in the reported levels of victimization by relationally aggressive behaviors throughout the grade targeted by the CICO intervention. While no significant differences were observed over time as reported by teachers and students participating in this intervention, students not participating in this intervention and who were unaware of the purpose of the study also provided reports of victimization over time throughout this study. Therefore, this analysis was completed even without significant findings supporting hypothesis one.

Three extreme outliers (i.e., more than two standard deviations from the mean) were removed from the data for these analyses. Two outliers were observed in the delayed-treatment

condition, while one outlier was observed in the treatment condition. Each of the outliers was observed to fall more than two standard deviations above the mean.

A repeated measures ANOVA revealed a non-significant time by treatment interaction for the self-report victimization by relationally aggressive behaviors, $F(2, 44) = 2.86$, $p = .066$, $\eta_p^2 = .09$. This indicates that there was no significant difference between groups over time in self-reported levels of victimization. Main effects of time and group were not significant. Post hoc tests revealed that no significant differences existed between measurements for the treatment group or for the delayed-treatment group. These statistical analyses are further illuminated by Figure 4, which reveals that students in each group reported a decrease in victimization by relationally aggressive behaviors following treatment; however, this reported improvement was not enough to create a statistically significant result.

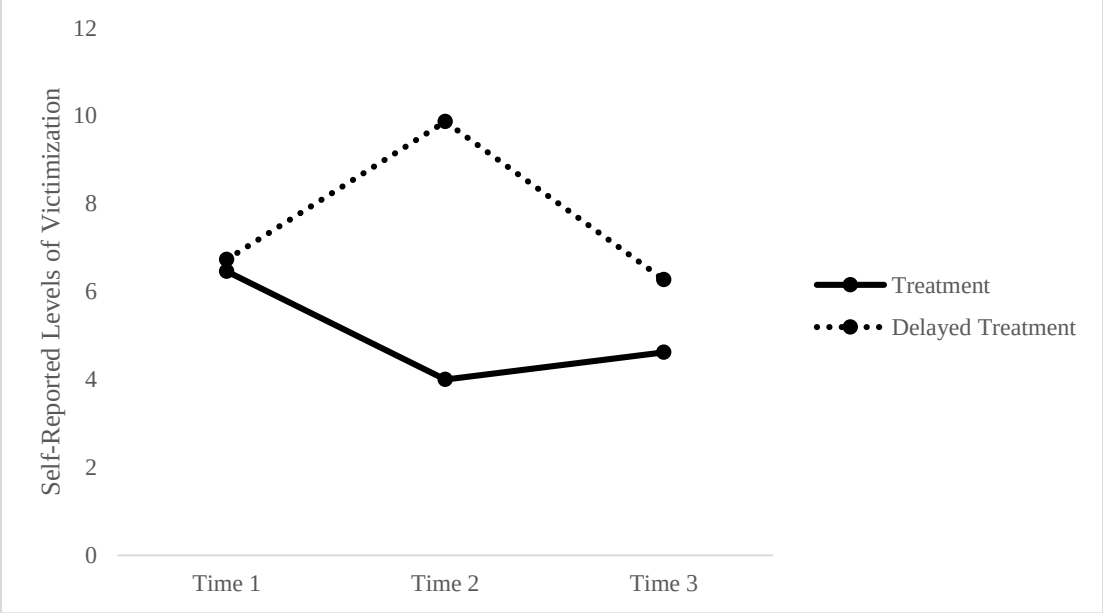

Figure 4. The interaction between group and time on the number of reported victimization by relationally aggressive behaviors.

To further evaluate this hypothesis, a repeated measures ANOVA was computed on the teacher-reported levels of student victimization within their classroom. One extreme outlier was

removed from the data for these analyses. Results revealed that the interaction between time and treatment was not significant, F (2, 29) = 2.48, p = .676, η_p^2 = .01. This indicates that no significant differences existed between groups over time in victimization according to teacher report. The main effect of group was not significant. The main effect of time was significant, F (2) = 76.64, p > .001, η_p^2 = .041.This result indicates that significant changes were observed over time, regardless of group. Post hoc analyses revealed that no significant differences existed between measurements for the treatment group. A significant difference was observed for the delayed-treatment group between time 1 (M = 5.43, SD = .45) and time 2 (M = 6.86, SD = .61), p = .015. This result indicates that the delayed-treatment group reported a significant increase in teacher reported victimization by relationally aggressive behaviors prior to treatment. These results are illuminated in Figure 5. Teacher-reported levels of victimization by relationally aggressive behaviors within her classroom increased over time throughout the course of this study.

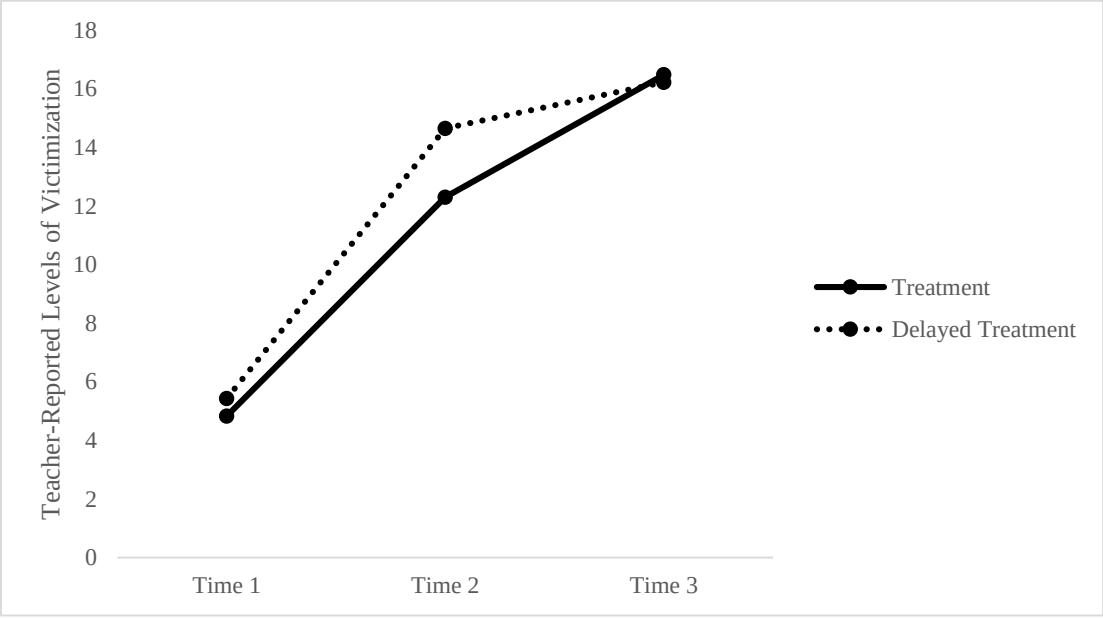

Figure 5. The interaction between group and time on the number of teacher-reported victimizations by relationally aggressive behaviors.

In an effort to understand these results more fully, the self-report data were combined to analyze only pretreatment and post treatment effects over time. Repeated Measures ANOVA was again computed on self-reported levels of victimization, analyzing the effect of time over two measurements. A significant main effect was observed over time, F (1) = 5.26, $p = .03$, $\eta_p^2 = .16$. This indicates an effect was observed over time in the reported levels of victimization, regardless of group. Figure 6 depicts the means over time. The means at time 1 (treatment: M = 6.00, SD = 1.74; delayed-treatment: M = 9.87, SD = 1.68) are significantly higher than the means at time 2 (treatment: M = 3.74, SD = 1.67; delayed-treatment: M = 6.27, SD = 1.62) A significant reduction in self-reported levels of victimization occurred over time when groups were combined; this remained true when including students exposed to the intervention and other students in the grade not directly exposed to CICO.

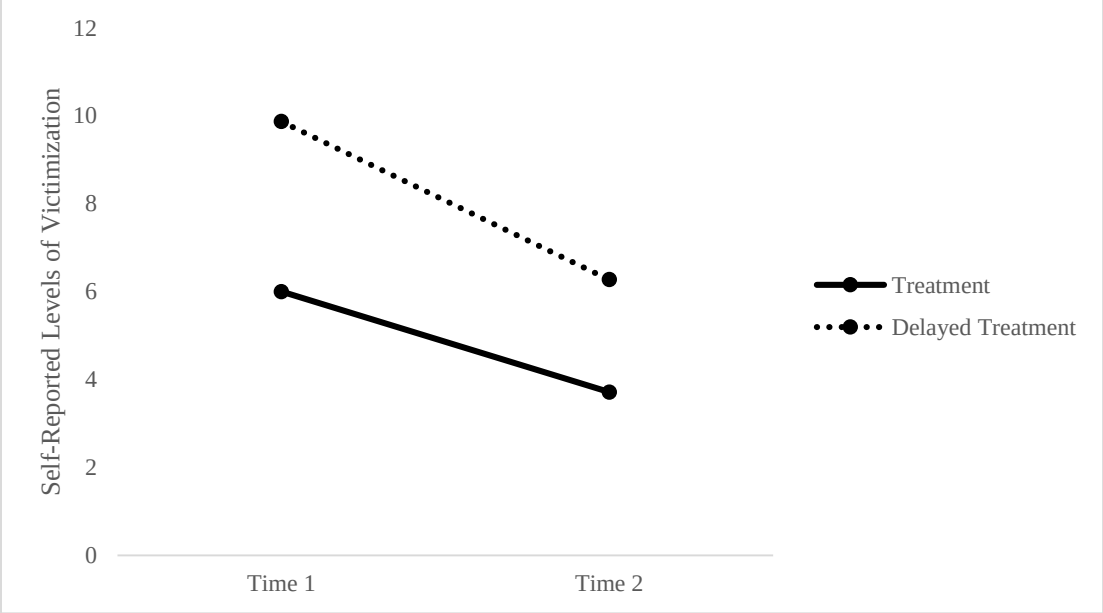

Figure 6. The interaction between group and time on the number of reported victimization by relationally aggressive behaviors when groups are combined.

Overall, data did not support hypothesis two. Over time, statistically significant reductions in self-reported and teacher-reported levels of victimization by relationally aggressive

behaviors for students did not reduce following implementation of the CICO intervention. However, some evidence exists that reductions in victimization using relational aggression occurred throughout the targeted grades following implementation of CICO.

Implementation of the CICO intervention has resulted in reductions in overall problem behavior and in reductions in physical aggression in previous research studies (Hawken & Horner, 2003). CICO has also resulted in increases in reported prosocial behaviors in other studies (Hunter & Gresham, 2013). While these were not the targeted behaviors within the current project, data on these variables were collected. Therefore, results related to these variables are presented to add to the literature available on the CICO intervention.

A repeated measures ANOVA revealed that the interaction between group and time was not significant for teacher reported overall problem behaviors according to the Social Skills Improvement System-Rating Scales, Teacher Report (Gresham & Elliot, 2008), $F(2, 29) < 1$, $p = .665$, $\eta_p^2 = .01$. This indicates that there was not a significant difference between groups over time in teacher reported levels of problem behaviors. The main effect of time was also not significant. The main effect for group was significant, $F(1) = 11.21$, $p = .002$, $\eta_p^2 = .28$. This indicates that groups were significantly different from one another, regardless of the effect of time. Teachers in the delayed-treatment condition rated their students significantly higher ($M = 22.91$) than the teachers in the treatment condition ($M = 12.73$).

Self-reported total problem behaviors were also analyzed using repeated measures ANOVA. Again, the interaction between time and group was not significant, $F(2, 29) < 1$, $p = .400$, $\eta_p^2 = .03$. Main effects of group and time were also not significant. Changes in self-reported levels of problematic behavior did not occur over time for either the treatment group or the delayed-treatment group.

As reductions in physical aggression have been reported following use of the CICO intervention, data on physical aggression were also collected and analyzed using repeated measures ANOVAs. In the current study, self-report and teacher-report data were collected for levels of physical aggression over time. The interactions between group and time were not significant for teacher-reported ($F(2,29) = 1.67$, $p = .20$, $\eta_p^2 = .05$) or for self-reported ($F(2, 29) < 1$, $p = .30$, $\eta_p^2 = .03$) levels of physical aggression in the current project. Main effects of time were not significant. The main effect of group for self-reported levels of physical aggression was not significant; however, the main effect of group was significant for teacher-reported levels of physical aggression, $F (2,29) = 21.57$, $p < .001$, $\eta_p^2 = .43$. This indicates that teachers reported significantly different levels of physical aggression in their students regardless of the effect of time. Teachers in the delayed-treatment condition rated their students as being significantly more physically aggressive ($M = 11.49$) compared to teachers in the treatment condition ($M = 6.54$), regardless of time.

Finally, data on prosocial behavior of students was collected from teachers and students throughout this intervention. Only results on teacher-reported levels of prosocial behavior will be reported, as students in this project reported excessively high levels of prosocial behavior, creating a ceiling effect. Repeated measures ANOVA revealed that the interaction between time and group was not significant for teacher-reported levels of prosocial behavior in their students, $F (2, 29) = 1.24$, $p = .29$, $\eta_p^2 = .04$. Main effects of time ($F(2) = 4.34$, $p = .020$, $\eta_p^2 = .13$) and group ($F(1) = 11.01$, $p = .002$, $\eta_p^2 = .28$) were each significant. These significant results indicate that teachers in the treatment and delayed-treatment schools reported significantly different levels of prosocial behavior, regardless of time, and that over time, scores changed, regardless of the group. Teachers in the treatment group rated their students as being significantly more

prosocial (M = 12.96) than teachers in the delayed-treatment group (M = 9.78). Post hoc analyses revealed that no significant effects existed between measurements for the treatment group; however, a significant difference was observed in the delayed-treatment group between time 1 (M = 9.33, SD = .50) and time 3 (M = 10.80, SD = .78), p = .014. This indicates that teachers in the delayed-treatment condition rated their students as displaying an increase in prosocial behaviors over time.

Discussion

The purpose of the current study was to evaluate the effectiveness of an evidence-based targeted intervention when applied to the problem of relational aggression observed in students in the fifth grade. Overall, results did not support the hypotheses. Even when results were significant, effect sizes were very small, indicating that this intervention appears to do very little to change or reduce relationally aggressive behaviors over time. Results of this project are consistent with interventions discussed throughout the literature on this topic. Noteworthy outcomes that were observed in the current project are detailed and discussed here.

Students in the treatment condition reported significant increases in relationally aggressive behaviors over time. Several possible explanations exist for this finding. First of all, targeting these behaviors may have brought them to the student's attention, which may have resulted in students noticing more over time how frequently these behaviors were being used. It is also possible that a contagion effect took place in the treatment school during this intervention. Specifically, students may have been introduced to other students engaging in similar behaviors during check in and check out times. Although checking in and checking out took place individually, sometimes students approached the mentor together and waited for their turn, which would have allowed these students to know who else was receiving this intervention. If this is the case, it is unsurprising that the use of relationally aggressive behaviors within these expanded peer groups may have increased as a result. Finally, it is a possibility that these socially savvy children gleaned the purpose of the research over time and adjusted their responses on questionnaires accordingly. This final possibility assumes a high level of unexpectedly vindictive behavior, making it displeasing to discuss as a possibility.

Students in the delayed-treatment condition reported decreasing levels of relationally aggressive behaviors over time. There are differences between schools and students in the treatment and delayed-treatment conditions that were not quantified in the current project that should be noted in an effort to help explain this result. Students in the treatment school tended to present as well-groomed, well cared-for children. Teachers in the treatment condition seemed willing to work long hours for their students and advocated for the children in their classrooms in matters related not only to academics, but also in matters related to their social and emotional well-being and development. Children in the treatment condition seemed to receive positive attention both at home and at school from several different adults active in their lives. Though data was not collected on this variable, students in the treatment condition returned more signed DPRs than did children in the delayed-treatment condition. In contrast, students in both of the delayed-treatment schools generally presented to be from a lower socioeconomic status. Many of these students looked tired each day at school. Teachers in the delayed-treatment condition arrived to school late many mornings throughout this project and seemed less willing to provide supports to students within their classrooms who needed the extra help. Evidence for this statement exists in the data provided related to treatment integrity. Teachers in the treatment group had higher treatment integrity than did teachers in the delayed-treatment group. It is also true that teachers in the delayed-treatment condition rated their students as being more physically aggressive, as having more problem behaviors, and as being less prosocial than did teachers in the treatment condition. Based on this, it could be argued that teachers in the delayed-treatment condition liked their students less than did teachers in the treatment condition. Overall, students in the delayed-treatment condition seemed to have few adults in their lives who provided high quality positive attention regularly. These differences between students and schools cannot

completely account for differences in results, as the largest drop in self-reported use of relationally aggressive behavior occurred prior to the intervention. However, students in the delayed-treatment condition seemed to appreciate more the adult attention provided noncontingently twice daily than the reward associated with meeting their goal. Perhaps a lean environment promotes the effectiveness of the CICO intervention. These students presented as if they wanted to please and impress the adult mentor, and the lead researcher believes these students would have worked hard to improve many behaviors (not just relational aggression) based on the relationship formed between mentor and student during the course of the CICO intervention.

Teachers reported small, not significant, improvements in relationally aggressive behaviors over time. Assuming this nonsignificant result is not a chance finding, it must be considered that teachers knew with certainty the purpose of this intervention, that teachers are generally nice individuals eager to please, and that teachers reported improvements in this behavior though none were actually observed.

The most interesting and promising result of this research project is that of the small decrease in self-reported levels of victimization at appropriate times (i.e., following implementation of intervention), including all consenting and assenting students in the grade (i.e., not only students participating in CICO intervention). When combining data and examining only pre and post intervention, this result became significant. Students across the grades targeted reported that levels of victimization by relationally aggressive behaviors decreased following implementation of the intervention. This is the most unbiased result reported in the current project, because it includes reports from students almost completely unaware of the intervention, as well as blind to the purpose of the intervention. Paired with this, though, is the finding that

teachers reported a large increase in victimization over time. A possible explanation for this result is that teachers became better observers of relationally aggressive behaviors over the course of this study. These results together create a research conundrum, and perceptions of victimization (e.g., ability to report on our own experiences with victimization, differences between teacher and student perceptions of victimization) should certainly be a focus of future research.

The CICO intervention has demonstrated the ability to influence change in overall problem behaviors, physical aggression, and prosocial behavior. In the current project, such changes were not observed. Evidently, and not surprisingly, these behaviors must be targeted for improvements to be observed.

As a final note, teachers, many of whom had prior experience with the CICO intervention, reported decreased satisfaction over time in the current study. Anecdotally, teachers disliked this intervention when used for the target behaviors associated with relational aggression. This was particularly true when other problem behaviors related to classroom activities were also present. As previously stated, early in the intervention, a behavioral target focusing on appropriate classroom behavior was added to appease teachers using this intervention. This leads to a more interesting point. Teachers seem relatively hesitant or unwilling to intervene on problem behaviors associated with relational aggression when students are displaying more obvious or problematic behaviors related to classroom participation or general appropriate classroom behavior. This is not terribly surprising; teachers must have appropriately behaved students in order to make progress academically which is the primary purpose of attending school. However, this stance seems to overlook the importance of managing

behaviors that are not overtly disruptive or problematic, but that can have long term negative consequences for the children involved.

Limitations and Future Directions

Several limitations exist in the current project. First of all, teachers who were carrying out this intervention and providing a good amount of the data on which results were based were not blind to condition. This limitation leaves us less able to analyze, understand, and draw conclusions from observed results. A further limitation is the differences described in the Discussion section that existed between the treatment school and the delayed-treatment schools. These differences make results difficult to interpret; however, they provide interesting talking points that lead to rich ideas for future research. Another limitation is the quasi-experimental nature of the current research. Lack of randomization is clearly related to the previously mentioned limitation of differences between schools. Furthermore, had a larger sample size been collected, hierarchical linear modeling could have been utilized which would have better accounted for the nested nature of schools.

A further limitation and an area where future research should be focused is that systematic direct observations were not utilized in the current research. Relying on self-report and teacher-report measures for this behavior, which is secretive by nature, is surely not ideal. Furthermore, students in this sample were not exposed to a preventive intervention before being identified as needing a targeted intervention. Throughout the literature review for this research project, a flaw discussed of many interventions was that they were not designed specifically with relational aggression in mind. While this intervention was revamped to target relational aggression specifically, the intervention itself was originally designed to target physical aggression and other problematic, observable, classroom behaviors. Therefore, the CICO intervention can be criticized in the same way: it was not developed for the problem of relational aggression.

Further research should be conducted on targeted interventions in general for the problem of relational aggression. While this intervention seems not to be the most effective in improving these behaviors, it stands that some children engage in these behaviors more than others, and that perhaps those children should be targeted for intervention.

Future research should focus on improving the ability of victims to handle these situations. While this is not often perceived as a palatable solution to this problem, and is often seen as blaming the victim, there are skills that can be taught to children that can improve their ability to stand up for themselves. These skills may not only improve victim's management of their current difficulties with relational aggression, but could possibility translate to other difficult areas for these children. It may also help to prevent or mitigate some of the negative outcomes associated with being the victim of a bullying situation (e.g., symptoms of anxiety and depression).

Finally, a largely untapped area in this field is intervening on bystanders (those who observe relational aggression happening). Leff (2007) has suggested that it may be beneficial to revisit the literature and utilize sociometric classroom ratings of peers to assist in this type of research. Specifically, it may be helpful to identify children who have high levels of social power or influence but are also well-liked; these children may be able to create the most change within their own social environments (e.g., their classrooms or grades). Some of the difficulty with intervening on the problem of relational aggression includes the peer attention and reinforcement component that is difficult to disrupt. Identifying well-liked students with high levels of social influences could help to disrupt these group contingencies.

Based on the results of this research, it would be interesting to further investigate the success of this particular intervention with students who come from very different backgrounds.

Furthermore, CICO should be investigated following functional assessments of behavior, or at the very least following preference assessments. Following anecdotal experiences in the current research, future research could further explore the idea that some children would display behavioral improvements in response to increased access to noncontingent positive adult attention.

Including all of the limitations and lack of significant findings, this project still represents the first evidence of an attempt to apply a targeted intervention to the problem of relational aggression. At this point, the field of psychology still does not quite know how to prevent or intervene on this problem behavior.

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Appendix A

Institutional Review Board
Dr. Robert Mathews, Chair
131 David Boyd Hall
Baton Rouge, LA 70803
P: 225.578.8692
F: 225.578.8782
irb@lsu.edu | lsu.edu/irb

ACTION ON PROTOCOL APPROVAL REQUEST

TO: Frank Gresham
Psychology

FROM: Robert C. Mathews
Chair, Institutional Review Board

DATE: January 23, 2013
RE: **IRB#** 3347

TITLE: Check-in/Check-out: Direct and Collateral Effects for Students Engaging in Relational Aggression and Their Classmates

New Protocol/Modification/Continuation: New Protocol

Review type: Full ___ Expedited _X_ **Review date:** 1/25/2013

Risk Factor: Minimal __X__ Uncertain _____ Greater Than Minimal_____

Approved_____X____ **Disapproved**_____

Approval Date: 1/25/2013 **Approval Expiration Date:** 1/24/2014

Re-review frequency: (annual unless otherwise stated)

Number of subjects approved: 400

Protocol Matches Scope of Work in Grant proposal: (if applicable)_____

By: Robert C. Mathews, Chairman 

PRINCIPAL INVESTIGATOR: PLEASE READ THE FOLLOWING –
Continuing approval is CONDITIONAL on:

1. Adherence to the approved protocol, familiarity with, and adherence to the ethical standards of the Belmont Report, and LSU's Assurance of Compliance with DHHS regulations for the protection of human subjects*
2. Prior approval of a change in protocol, including revision of the consent documents or an increase in the number of subjects over that approved.
3. Obtaining renewed approval (or submittal of a termination report), prior to the approval expiration date, upon request by the IRB office (irrespective of when the project actually begins); notification of project termination.
4. Retention of documentation of informed consent and study records for at least 3 years after the study ends.
5. Continuing attention to the physical and psychological well-being and informed consent of the individual participants, including notification of new information that might affect consent.
6. A prompt report to the IRB of any adverse event affecting a participant potentially arising from the study.
7. Notification of the IRB of a serious compliance failure.
8. SPECIAL NOTE:

**All investigators and support staff have access to copies of the Belmont Report, LSU's Assurance with DHHS, DHHS (45 CFR 46) and FDA regulations governing use of human subjects, and other relevant documents in print in this office or on our World Wide Web site at http://www.lsu.edu/irb*

Appendix B

Study Approved By:
Dr. Robert C. Mathews, Chairman
Institutional Review Board
Louisiana State University
203 B-1 David Boyd Hall
225-578-8692 | www.lsu.edu/irb
Approval Expires: 1/24/2014

Parental Permission Form

Dear Parent/Guardian,

We are conducting a research project to see if we can help kids get along better with their classmates. Your child, other students in your child's class, and your child's teacher will answer some questions about behaviors such as gossiping and leaving other kids out in a group a few times throughout this spring. We are writing to ask your permission to include your child in this research. The point of this project is to improve your child's friendships with other children by working closely with students who are using these behaviors more than other students.

If you give your permission for your child to participate and it turns out that your child is using these behaviors more often than other children, your child may be able to participate in a special intervention. This intervention will hopefully reduce the amount of these behaviors that your child is using. If your child is one of the students that might benefit from this intervention, the Doctoral student associated with this project will contact you and keep you very involved in the intervention process.

If you consent, your child's results may be included in a research report, but his/her name will *not* be included because all data will remain completely confidential. A number will be assigned to your child so that his/her name is not used in any capacity. Participation is voluntary, and your child will become a part of this project only if you and he/she agree to participate. Also, you may choose to withdraw your child from the study at any time.

The only known risk to this study is that students who get to participate in the intervention may feel self-conscious about doing so. In hopes of preventing this, students who are not selected for participation will not know that an intervention is being used for some students. Check-in/Check-out is an intervention that is easily incorporated into the school day, and should not draw much attention from your child's classmates.

The benefit to this study is that if we can reduce behaviors like gossiping, spreading rumors, and leaving other kids out in groups, then we can improve the health and well-being of all students who are affected by these behaviors. These behaviors can hurt students who use them often, and can also hurt students who are often the target of them. If we can improve these behaviors, then many children will enjoy better friendships and be less worried about social relationships.

If you will allow your child to participate in this research project, please put a check on the line next to *Yes* and sign your name. If you would rather your child not participate, please put

a check on the line next to *No* and sign your name. Please return this form to your child's teacher as soon as possible. We look forward to working with your child!

If you have any questions, please contact us at your earliest convenience at (225) 578-4663, Monday - Friday, 8:30 a.m. - 4:30 p.m. You may also send an email to the address provided below.

Sincerely,

Emily P. Corwin, M.A.
Doctoral Student
Louisiana State University
emilypcorwin@gmail.com

Dr. Frank Gresham, Ph.D.
School Psychology
Louisiana State University

The study has been discussed with me and all my questions have been answered. I may direct additional questions regarding study specifics to the investigators. If I have questions about subjects' rights or other concerns, I can contact Robert C. Mathews, Chairman, LSU Institutional Review Board, (225) 578-8692, irb@lsu.edu, www.lsu.edu/irb

____ Yes, I give my permission for my child to participate in this study

____ No, I prefer that my child not participate in this study.

Parent/Guardian Printed Name: _____

Parent/Guardian Signature: _____ Date: _____

Student's Name: _____

How can I contact you? Phone number: _____

Email address: _____

Study Approved By:
Dr. Robert C. Mathews, Chairman
Institutional Review Board
Louisiana State University
203 B-1 David Boyd Hall
225-578-8692 | www.lsu.edu/irb
Approval Expires: 1/24/2014

Child Assent Form

Hi! I am from LSU and I am going to be working some kids at your school this spring. I would like your help in learning some things about how kids treat each other. Your parent(s) and teacher have said it is okay for me to work with you, but I wanted to ask you also.

For this project, I am going to be asking some questions of you and your classmates. You will mostly just have to read the question and circle the answer that you think is best for you. This will happen three times before the end of the school year. You might get to be more involved in the project than this, but maybe not. If you get to be more involved, you and I would be working on how to make friends and keep friends at school. You would not be personally named in any of our research and you do not need to do anything differently from what your parent(s) and teacher have already decided is a good idea. Just by being yourself you would help us learn and do our study!

May we use your results as part of our research to learn more ways to help students in school?

Yes No

Child's Name: _____ Age: _____ Date: _____

Witness*: _____ Date: _____

*The witness must be present for the assent process, not just the signature.

Appendix C

Children's Social Behavior Scale – Self-Report

We are interested in how kids get along with one another. Please think about your relationship with other kids and how often you do these things while you're with them.

1. Some kids tell lies about a classmate so that the other kids won't like the classmate anymore. How often do you do this?

Never	Almost Never	Sometimes	Almost All The Time	All The Time
1	2	3	4	5

2. Some kids try to keep certain people from being in their group when it is time to play or do an activity. How often do you do this?

Never	Almost Never	Sometimes	Almost All The Time	All The Time
1	2	3	4	5

3. Some kids try to cheer up other kids who feel upset or sad. How often do you do this?

Never	Almost Never	Sometimes	Almost All The Time	All The Time
1	2	3	4	5

4. When they are mad at someone, some kids get back at the person by not letting the person be in their group anymore. How often do you do this?

Never	Almost Never	Sometimes	Almost All The Time	All The Time
1	2	3	4	5

5. Some kids hit other kids at school. How often do you do this?

Never	Almost Never	Sometimes	Almost All The Time	All The Time
1	2	3	4	5

6. Some kids let others know that they care about them. How often do you do this?

Never	Almost Never	Sometimes	Almost All The Time	All The Time
1	2	3	4	5

7. Some kids help out other kids when they need it. How often do you do this?

Never 1	Almost Never 2	Sometimes 3	Almost All The Time 4	All The Time 5

8. Some kids yell at others and call them mean names. How often do you do this?

Never 1	Almost Never 2	Sometimes 3	Almost All The Time 4	All The Time 5

9. Some kids push and shove other kids at school. How often do you do this?

Never 1	Almost Never 2	Sometimes 3	Almost All The Time 4	All The Time 5

10. Some kids tell their friends that they will stop liking them unless the friends do what they say. How often do you tell friends this?

Never 1	Almost Never 2	Sometimes 3	Almost All The Time 4	All The Time 5

11. Some kids have a lot of friends in their class. How often do you have a lot of friends in your class?

Never 1	Almost Never 2	Sometimes 3	Almost All The Time 4	All The Time 5

12. Some kids try to keep others from liking a classmate by saying mean things about the classmate. How often do you do this?

Never 1	Almost Never 2	Sometimes 3	Almost All The Time 4	All The Time 5

13. Some kids wish that they had more friends at school. How often do you feel this way?

Never 1	Almost Never 2	Sometimes 3	Almost All The Time 4	All The Time 5

14. Some kids say or do nice things for other kids. How often do you do this?

Never 1	Almost Never 2	Sometimes 3	Almost All The Time 4	All The Time 5

15. Some kids have a lot of classmates who like to play with them. How often do the kids in your class like to play with you?

Never 1	Almost Never 2	Sometimes 3	Almost All The Time 4	All The Time 5

Children's Social Experiences Scale – Self-Report

We are interested in how kids get along with one another. Please think about your relationship with other kids and how often these things happen to you while you're with them.

1. How often does another kid give you help when you need it?

Never 1	Almost Never 2	Sometimes 3	Almost All The Time 4	All The Time 5

2. How often do you get hit by another kid at school?

Never 1	Almost Never 2	Sometimes 3	Almost All The Time 4	All The Time 5

3. How often do other kids leave you out on purpose when it is time to play or do an activity?

Never 1	Almost Never 2	Sometimes 3	Almost All The Time 4	All The Time 5

4. How often does another kid yell at you and call you mean names?

Never 1	Almost Never 2	Sometimes 3	Almost All The Time 4	All The Time 5

5. How often does another kid try to cheer you up when you feel sad or upset?

Never 1	Almost Never 2	Sometimes 3	Almost All The Time 4	All The Time 5

6. How often does a kid who is mad at you try to get back at you by not letting you be in their group anymore?

Never 1	Almost Never 2	Sometimes 3	Almost All The Time 4	All The Time 5

7. How often do you get pushed or shoved by another kid at school?

Never 1	Almost Never 2	Sometimes 3	Almost All The Time 4	All The Time 5

8. How often does another kid do something that makes you feel happy?

Never 1	Almost Never 2	Sometimes 3	Almost All The Time 4	All The Time 5

9. How often does a classmate tell lies about you to make other kids not like you anymore?

Never 1	Almost Never 2	Sometimes 3	Almost All The Time 4	All The Time 5

10. How often does another kid kick you or pull your hair?

Never 1	Almost Never 2	Sometimes 3	Almost All The Time 4	All The Time 5

11. How often does another kid say they won't like you unless you do what they want you to do?

Never 1	Almost Never 2	Sometimes 3	Almost All The Time 4	All The Time 5

12. How often does another kid say something nice to you?

Never 1	Almost Never 2	Sometimes 3	Almost All The Time 4	All The Time 5

13. How often does a kid try to keep others from liking you by saying mean things about you?

Never 1	Almost Never 2	Sometimes 3	Almost All The Time 4	All The Time 5

14. How often does another kid say they will beat you up if you don't do what they want you to do?

Never 1	Almost Never 2	Sometimes 3	Almost All The Time 4	All The Time 5

15. How often do other kids let you know that they care about you?

Never 1	Almost Never 2	Sometimes 3	Almost All The Time 4	All The Time 5

Children's Social Behavior Scale – Teacher Report

	Says supportive things to peers	When mad at a peer, s/he gets even be excluding the peer from his or her clique or play group	Hits or kicks peers	Spreads rumors or gossips about some peers	Initiates or gets into physical fights with peers	When angry at a peer, tries to get other children to stop playing with the peer or stop liking the peer	Is helpful to peers	Threatens to stop being a peer's friend in order to hurt the peer or get what s/he wants from the peer	Threatens to hit or beat up other children	When mad at a peer, ignores the peer or stops talking to the peer	Pushes or shoves peers	Is kind to peers	Tries to cheer peers up when they are upset or sad about something
Katherine													
Haley													
Aaron													
Natalie													
Kristin													
Caleb													
Jeff													
Kelsey													
Rachel													
Liz													
Eli													

For each student, rank that the statement is *Never True* (1), *Almost Never True* (2), *Sometimes True* (3), *Almost Always True* (4), *or Always True* (5).

Children's Social Experiences Scale – Teacher Report

	Gets hit or kicked by peers	Get ignored by other children when a peer is mad at them	Gets pushed or shoved by peers	Gets help from peers when s/he needs it	Gets left out of the group when someone is mad at them or wants to get back at them	Gets physically threatened by peers	Is the target of rumors or gossip in the playgroup
Katherine							
Haley							
Aaron							
Natalie							
Kristin							
Caleb							
Jeff							
Kelsey							
Rachel							
Liz							
Eli							

For each student, rank that the statement is *Never True* (1), *Almost Never True* (2), *Sometimes True* (3), *Almost Always True* (4), *or Always True* (5).

Appendix D

Victimization Experiences in the Previous Month

Think over the past month of school. About how many times have these things happened to you? Put a check or an x by the answer that best indicates how many times in the past month you have experienced these things. For example, if you put a mark by "1-2", that would mean that in the past month, you have experienced what the question is asking 1 or 2 times.

1. How many times in the past month have another student or other students gossiped about you or spread rumors about you?

____ Not at all

____ 1-2

____ 3-4

____ 5-6

____ 7-8

____ 9-10

____ More than 10

2. How many times in the past month have another student or other students ignored you or left you out during group activities or games?

____ Not at all

____ 1-2

____ 3-4

____ 5-6

____ 7-8

____ 9-10

____ More than 10

Appendix E

Treatment Integrity Form

Check-In

Date:

Mentor:

1. I gave the student the DPR before the school day	yes	no
2. I discussed yesterday's performance with them -How it made them feel if performance was good -How to improve it if performance was not so good	yes	no
3. I discussed and practiced target behavior goals with student	yes	no
4. I set the daily goal with the student	yes	no
5. I allowed the student to pick which prize s/he is working towards	yes	no

Treatment Integrity Form

Check-Out

Date:

Mentor:

1. I counted points earned and compared it to the goal set for today	yes	no
2. I provided feedback based on behavior -Positive praise for meeting or exceeding point goal -Instructive feedback for not meeting point goal	yes	no
3. If applicable, I let the student pick/have reward	yes	no
4. I sent the DPR home with student to have it signed by his/her parent	yes	no

Intervention Integrity Form

Teacher

Date:

Teacher:

Time:

1. Gave the student feedback at the end of designated period	yes	no
2. Only rated student performance for *that* time period	yes	no
3. Gave the student positive verbal praise for performing approrpriate behaviors and scoring high in *that* time period	yes	no
4. If the student scored low in that time period, gave the student student feedback on how to improve his/her behavior	yes	no

Appendix F

Sample Daily Progress Report

Name: Sybil

Date: _____

0 = Excluded, ignored, or was disrespectful 1 = Maybe messed up once, but overall did behaviors listed 2 = Great Job!	Participated in class, followed teacher instructions, completed classwork, and behaved cooperatively	Included other students in activities; Did not exclude other students	Used kind words when talking to or about other students; Did not use mean or inappropriate words or actions to students or teachers	Remained calm when criticized, corrected, or teased; Did not threaten or ignore people when upset	 Total Points	Teacher Initials
Morning Work	0 1 2	0 1 2	0 1 2	0 1 2		
Social Studies	0 1 2	0 1 2	0 1 2	0 1 2		
Reading	0 1 2	0 1 2	0 1 2	0 1 2		
Math	0 1 2	0 1 2	0 1 2	0 1 2		
Ancillary	0 1 2	0 1 2	0 1 2	0 1 2		
Science	0 1 2	0 1 2	0 1 2	0 1 2		
	Total Points Earned:		Today's Goal:			

Vita

Emily Patty Corwin, originally from Helena, Alabama, received her Bachelor's degree in psychology from the University of Alabama in 2009. Following graduation, Emily moved to Baton Rouge, Louisiana, to begin her graduate training in school psychology at Louisiana State University. She completed her Master's degree in 2012, and will receive her doctoral degree in August 2014. Upon graduation, Emily will begin her Postdoctoral Fellowship at the Kennedy Krieger Institute in Baltimore, Maryland.