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Effects of A Classroom Intervention on Academic Engagement of Elementary School Students with Anxiety

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EFFECTS OF A CLASSROOM INTERVENTION ON ACADEMIC ENGAGEMENT

OF ELEMENTARY SCHOOL STUDENTS WITH ANXIETY

by

Lychelle Leatham

A thesis submitted in partial fulfillment of
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ABSTRACT

Effects of A Classroom Intervention on Academic Engagement of

Elementary School Students with Anxiety

by

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This study evaluated the impact of anxiety reduction on academic engagement for

eight students experiencing significant anxiety in grades three through five. All

participating students showed high anxiety levels that appeared to be impacting

performance on at least one academic task in the classroom, according to teacher report.

Student participants received a modified cognitive behavioral therapy (CBT) in the form

of five 20-minute sessions, in the school setting. Also as part of treatment participants

completed exposure tasks, which involved the child participating in anxiety provoking

academic tasks, with adult support. To assess whether or not anxiety was reduced,

participants completed Subjective Units of Distress Scale (SUDS) ratings several times

weekly and the Screen for Child Anxiety Related Emotional Disorders (SCARED) both

pre- and post-treatment. The Direct Behavior Rating (DBR) was used to monitor

students' academic engagement and was completed by the teacher. Results of this study

show that this intervention, conducted in the school setting, has promising outcomes. The findings provide initial support that a modified anxiety treatment with adult support can be effective in reducing anxiety and increasing academic engagement.

(100 pages)

PUBLIC ABSTRACT

Effects of A Classroom Intervention on Academic Engagement of

Elementary School Students with Anxiety

Lychelle Leatham

This study evaluated the impact of anxiety reduction on academic engagement for elementary students experiencing high levels of anxiety. For participating students, the anxiety appeared to be impacting academic performance in the school setting. Student participants received modified cognitive behavioral therapy (CBT) including exposure tasks with adult support in the school setting. Both anxiety and academic engagement was monitored by participating students and their teachers. Results show that this intervention has promising outcomes and provides initial support that anxiety reduction increases academic engagement for anxious elementary students.

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Lychelle Leatham

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CHAPTER I

INTRODUCTION

Anxiety is among the most common disorders in children and adolescents (Mychailyszn, Brodman, Read, & Kendal, 2012). Children with anxiety frequently experience significant impairments in school, at home, and in other social settings, and, if left untreated, the condition often lasts into adulthood. Childhood anxiety frequently interferes with school performance (Woodward & Fergusson, 2001). Such students often have difficulties staying focused or may miss school all together to avoid stressful school events. Given the stressful nature of schools and the academic demands of students, it is not uncommon to find students with a wide range of anxiety disorders in schools. Included in these disorders are separation anxiety disorder (SAD), generalized anxiety disorder (GAD), and social phobia (SP; Mychailyszn et al., 2012). A review of treatment outcomes for children and youth with all types of anxiety found that 60% to 65% of the children treated respond positively to the intervention provided (Kendall, Settipani, & Cummings, 2012). It was also found that the primary treatment used was cognitive behavioral therapy (CBT) consisting of psycho-education, recognition and expression of feelings, relaxation, cognitive restructuring, problem solving, and coping skills. The final sessions of CBT typically consisted of exposure therapy, which involved exposing the child to the feared or anxiety provoking situation multiple times.

While various CBT approaches have been found to be effective in the clinical setting, there is little research on the effectiveness of such interventions in the school setting. A school-based intervention may help support such students in the environment

where the school impairments occur. Several studies show preliminary evidence that CBT can be effective in reducing anxiety symptoms when implemented in school settings but there is still limited research on how these treatments affect school functioning or academic engagement (Hirshfeld-Becker, Micco, Mazursky, Bruett, & Henin, 2011; Hofmann, Asnaani, Vonk, Sawyer, & Fang, 2012). School functioning and academic engagement include students' grades, attendance, work completion, and on task behavior in the classroom. The few studies that evaluated the link between academic engagement and anxiety in children found that anxiety had a negative effect on academic engagement (Schoenfeld, College, & Janney, 2008) and test taking (von der Embse, Barterian, & Segool, 2013). The researchers in these studies hypothesized that students with anxiety have difficulties participating and focusing on work because of their worries about their performance. These difficulties often resulted in underachievement over time. Unfortunately, few studies have been conducted to evaluate whether or not academic outcome is improved as anxiety is reduced (Schoenfeld et al., 2008).

The few studies that have evaluated academic outcomes are promising (Cheek, Bradley, Reynolds, & Coy, 2002; Weems et al., 2009; Wood, 2006). A few researchers have examined intervention effects on performance anxiety (i.e., test anxiety) on formal or informal evaluations of academic outcomes (von der Embse, 2013). The studies that have examined test anxiety interventions used techniques such as biofeedback, behavior therapy, cognitive behavioral therapy, and priming competency which demonstrated promising results (Cheek et al., 2002). A few other researchers have investigated the effects of child-focused CBT on grade point average (GPA) and benchmark tests for

reading and math and found that as anxiety was effectively reduced academic performance (as measured by GPA and benchmark test scores) improved (Cheek et al., 2002; Weems et al., 2009). No studies, however, have monitored daily academic tasks, such as work completion or on task behavior, in order to evaluate improvement as a result of an anxiety intervention.

Although research supports a relationship between anxiety and academic engagement, more research is needed to determine the extent that academic engagement increases with the reduction of anxiety through a school based treatment. It should also be noted that conducting such interventions in the school would require modifications to accommodate the limited amount of time and resources in the school setting. Another challenge associated with the treatment of children with anxiety is the lack of research and knowledge regarding the best way to help such children in the school setting. One advantage of school-based intervention is the ability to implement adult support during anxiety provoking academic situations and tasks. The present study sought to examine the effects of a modified CBT intervention on anxiety levels and academic engagement, with anxious elementary students, in a school setting. The following research questions were of primary interest in this study.

1. Is there a functional relation between a CBT exposure-based intervention and academic engagement of anxious elementary students?

2. Is there a functional relation between a CBT exposure-based intervention and subjective ratings of distress of anxious elementary students?

CHAPTER II

LITERATURE REVIEW

Despite the high prevalence of anxiety disorders in children and effective treatment outcomes to reduce anxiety symptoms, there is limited research on the relationship between reductions in anxiety and school functioning or academic engagement. The purpose of this literature review is to critique and synthesize previous research on the effect of anxiety treatment on academic engagement for children with anxiety. The primary source of literature used in this review was the PsychInfo and Psychology, EBSCOhost, and the Behavioral Sciences Collection databases. Studies were located by searching these databases for peer reviewed research articles that focused on the impact of anxiety on academic performance for children and adolescents as well as anxiety interventions implemented in schools. The following descriptors were utilized in the database search: Test anxiety, math anxiety, school anxiety, anxiety, academic performance/academics, intervention, cognitive behavioral therapy, school-based interventions. The references of all selected studies were reviewed in an effort to find other potential studies that met inclusion criteria. The objectives of the systematic review are as follows.

1. To describe characteristics and prevalence of anxiety and the negative outcomes associated with untreated anxiety.
2. To describe previous research on treatments in the school setting.
3. To describe the current state of the research regarding the relationship between reduction in anxiety symptoms and academic performance.
4. To discuss the strengths and weaknesses in previous studies regarding these topics to inform research questions and strategies that will be used for this study.

Characteristics and Prevalence of Anxiety

According to the latest edition of *the Diagnostic and Statistical Manual of Mental Disorders*, fifth edition (DSM-5; American Psychiatric Association, 2013), the following anxiety disorders can be distinguished in children and adolescents: (a) separation anxiety disorder (SAD) is characterized by excessive anxiety concerning separation from the home or from significant attachment figures, to a degree that is at variance with the child's developmental level; (b) generalized anxiety disorder (GAD) is characterized by persistent and excessive anxiety or worry about a number of events or activities (such as school performance); and (d) social anxiety disorder or social phobia (SP) is concerned with a marked fear of social or performance situations in which embarrassment may occur. In general, anxiety is a problem when disrupting important life functions such as daily routines, school performance, friendships, and recreational activities. Problem anxiety is typically disproportional/excessive relative to same-age peers and is consistently present over a long period of time (6 months or more).

Anxiety is one of the most common disorders among children and adolescents ranging from 2% to 27% (Mychailyszn et al., 2012). Costello, Mustillo, Erkanli, Keeler, and Angold, (2003) found that anxiety disorders had a lifetime prevalence of 29% among children and adolescents in the general population. The average age of onset is 11 years old, which is earlier than other mental health disorders (Kessler et al., 2011). The median age of onset for specific phobia and SAD is 7 years old, SP is 13 years old, and GAD is 31 years old (Kessler, Berglund, Demler, Jin, & Walters, 2005). Despite the high prevalence of anxiety disorders, less than one-third of children have an anxiety disorder

receive treatment (Chavira, Stein, Bailey, & Stein, 2004).

Negative Outcomes Associated with Anxiety

Children with anxiety are affected in multiple negative ways. For example, some negative immediate outcomes for students with anxiety include difficulty making friends and participating in classroom activities (Ryan & Maisa Warner, 2012; Woodward & Fergusson, 2001). Such students may avoid activities that most children engage in, causing them to miss developmental opportunities (Mychailysyzn et al., 2011). Children with anxiety disorder also are more likely to report higher levels of depression, attention and concentration difficulties, lower self-esteem, and lower levels of achievement (McLoone, Hudson, & Rapee, 2006). Additionally, these children are at increased risk for depression, suicide ideation and attempts, and substance abuse (Woodward & Fergusson, 2001). Many studies show that anxiety is chronic in nature and if untreated, anxiety symptoms often worsen over time and lead to anxiety and depression in adulthood (Mychailyszyn et al., 2011).

Anxiety is also associated with negative academic performance and outcomes. Elevated anxiety produces physiological arousal, which impairs concentration on academic tasks and can make it difficult to recall previously mastered academic knowledge (Wood, 2006). Children with anxiety disorders may perform below their ability level and consequently receive lower grades or marks than is accurate (Weems et al., 2009). Test anxiety is a common manifestation of anxiety problems in children and adolescents, which can have a direct impact on academic progress (Cheek et al., 2002).

These are some of the potential negative outcomes experienced by children with anxiety, meaning many children could benefit from intervention services that target anxiety reduction.

Research has shown a negative relationship between anxiety and academic performance indicating that children with higher anxiety are more likely to have lower performance on classroom and achievement tests (e.g., Durbrow, Schaefer, & Jimerson, 2001; Segool, Carlson, Goforth, von der Embse, & Barterian, 2013). Low academic performance for an anxious student may be due to lower attention levels or relieving anxiety by missing school, avoiding difficult assignments or making mistakes (Dozois, Westra, & Dobson, 2004). Persistent inattentive or avoidance problems result in fewer opportunities for anxious students to be fully engaged in learning activities. Academic engagement, as defined by Wang et al. (2014), is time on-task behavior, overt attention, classroom participation, and question asking. Academic engagement has also been referred to as paying attention, following directions and working independently (Searle, Miller-Lewis, Sawyer, & Baghurst, 2013). Educators consider academic engagement to be important for children to perform well on tests, earn high grades, and acquire academic skills. Thus, considering intervention options when distressful or avoidance behaviors decrease engagement is justified.

Summary of Effective Treatment for Childhood Anxiety

Research has shown CBT to be effective in reducing anxiety in children with all types of anxiety including SAD, GAD, and SP (Kendall, Hudson, Gosch, Flannery-

Schroeder, & Suveg, 2008). CBT treatment focusing on anxiety reduction in children typically includes several key components. The first is psycho-education, which involves educating children about the relationship between thoughts, feelings, and behavior. CBT interventions also include emotional recognition to help children become aware of their own unique anxiety response. Children are taught to recognize cognitions and to challenge or replace anxiety-increasing cognitions. Anxiety reducing CBT also emphasizes exposure, where children practice their new skills in actual anxiety provoking situations. Lastly, CBT programs typically include self-monitoring techniques as well as self-reinforcement to celebrate positive attempts toward overcoming worries.

A common CBT program used to help children reduce anxiety is the Coping Cat program developed by Kendall, Safford, Flannery-Schroeder, and Webb (2004). Research supports the Coping Cat program as it has been found to be effective in reducing anxiety in children (Walkup et al., 2008). Another CBT program that has been effective in reducing anxiety is the FRIENDS program (Stallard, 2010). Stallard reported that several randomized controlled trials have been done evaluating the effectiveness of FRIENDS provided to children in the school setting. One such study, conducted by P. Barrett and Turner (2001), involved 489 child participants between the ages of 10 and 12 and showed significant reductions in anxiety after the FRIENDS program intervention.

A few studies have investigated the mechanism or relevance of individual components of CBT. One such study investigated the benefit of emotional regulation strategies within the Coping Cat program for children ages 7 to 13 (Suveg, Kendall, Comer, & Robi, 2006). Emotional regulation was targeted because children with anxiety

disorders have shown to be less skilled at emotion understanding and emotional regulation than children without psychopathology. Results showed that emotion-focused CBT was effective in reducing anxiety symptoms and increasing awareness of emotional experience.

Summary of Effective Treatment in School Settings

It is estimated that 70% of children and adolescents in need of mental health services do not receive treatment (Storch & Crisp, 2004). One way to meet the needs of these children is to provide such services in the schools (Warner & Fox, 2012). The school is a naturalistic setting that can increase access to care that targets any academic problems or lack of academic engagement that may be occurring due to mental health issues (Mychailyszyn et al., 2011).

There are many advantages to providing treatment to anxious children in the school setting. First, the school setting is a common setting for anxiety-related problems to occur (Storch & Crisp, 2004) and anxiety has been significantly correlated with school-related stressors (S. Barrett & Heubeck, 2000). Many school factors such as teachers, peers, and academic demands contribute to the development and maintenance of anxiety symptoms, which may ultimately lead to poor academic engagement (Ginsburg, Becker, Kingery, & Nichols, 2008). Additionally, school-based anxiety interventions enhance the child's ability to apply new skills to cope with problematic school situations, thus enhancing treatment generalizability (Mychailyszyn et al., 2011). As students with anxiety use their new skills, on-site trained school personnel can provide immediate

prompts and feedback for a specific situation, which is often not available in clinic-based treatments.

Despite these advantages, there are many challenges that are unique to the school setting as interventions are implemented. One such challenge is that it may be difficult to get the support of parents who may not be aware of existing anxiety symptoms because they only manifest themselves in the school setting or the parents do not recognize certain behaviors as anxiety symptoms (McLoone et al., 2006). Another challenge is the limited resources of schools, including funding for trained personnel to implement the intervention. Additionally, such interventions can be time consuming and the opportunity to work with students in need can be limited (Mychailyszyn et al., 2011).

Despite these challenges, results from some studies show that school-based anxiety focused interventions are effective in reducing child anxiety. Studies on school-based interventions will be discussed in the following section.

Evidence-Based Treatments in Schools

Although most studies examining treatment effects for children and youth with anxiety have been conducted in clinical settings, a few have examined intervention effectiveness in school settings. Neil and Christensen (2009) reviewed 27 studies between 1987 and 2008 that implemented and described school-based prevention programs and their effectiveness in reducing symptoms of anxiety. The review included studies with participants who were children (ages 5-12) or adolescents (ages 13-19) and used a randomized controlled trial method. The results of this review indicated that all 27

evaluated studies used a CBT treatment program or certain components of CBT treatment programs. To measure outcomes, a variety of anxiety symptom measurement scales were used including the Revised Children's Manifest Anxiety Scale (RMAS), the State Trait Anxiety Inventory (STAI), the Spence Children's Anxiety Scale (SCAS), and the Screen for Child Anxiety Related Emotional Disorders (SCARED). This review found that 78% of the 27 studies reported significant improvement in participant's anxiety symptom reduction, with effect sizes ranging from 0.11 to 1.37.

Several researchers have reviewed the effectiveness of specific treatment programs that have been implemented in school settings (Herzig-Anderson, Colognori, Fox, Stewart, & Masia Warner, 2012). The Cool Kids, The Friends Program, and Skills for Social and Academic Success (SASS) have been evaluated in one or more studies and all three were found to be effective (Essau, Conradt, Sasaqawa, & Ollendick, 2012; Herzig-Anderson et al., 2012; McLoone et al., 2006). A meta-analysis of 63 school-based CBT intervention studies for children and youth with anxiety was conducted by Mychailyszyn et al. (2012) to examine the effects of different CBT programs on anxiety. Interestingly, the results of the studies indicated that increasing the duration of interventions was not associated with larger magnitude effect sizes, meaning that time-efficient treatments may be equally effective in reducing anxiety symptoms. A weakness of the intervention programs reviewed was that the effects of treatment were not maintained over time. For example, a 12-month follow-up of children who received anxiety interventions did not exhibit greater reduction in symptoms from baseline than controls (Mychailyszyn et al., 2012).

Academic Outcome of Anxiety Treatment

Although results have shown that students participating in school based CBT interventions experience anxiety reduction, few studies examined intervention effectiveness on academic engagement. Acknowledging the dearth of literature on interventions conducted in school settings and potential influence of anxiety on academic engagement, Mychailyszyn, Mendez, and Kendall (2010) conducted a study to further evaluate the relationship between anxiety and school functioning. The study's participants were 227 youth between the ages of 7 and 14 who were referred from community resources to the Child and Adolescent Anxiety Disorder Clinic. The youth participants were organized into one of four groups based on their principal diagnosis: (1) no principal diagnosis, (2) principal diagnosis of GAD, (3) principal diagnosis of SAD, or (4) principal diagnosis of SP. School functioning was measured by the parents' completion of Child Behavior Checklist (CBCL) and the teachers' completion of the Teacher's Report Form (TRF). According to parent ratings, children with no diagnosis were rated as doing better in school than those in all of the anxiety-disordered groups. Interestingly, each anxiety-disordered group did not differ significantly from one another in regards to school functioning according to mothers, but youth with SP was the greatest impairment according to fathers. Data from the TRF revealed that students without anxiety disorders were working harder, learning more, doing better academically, and happier than students with anxiety. The results from this study indicated that youth with anxiety demonstrate greater impairments in academic engagement than those without anxiety.

Schoenfeld et al. (2008) conducted a meta-analysis of eight studies between 1994 and 2001 that examined literature regarding anxiety in children and adolescents that included a focus on the effects of anxiety disorders on academic performance. First a search of online databases was conducted, then key journals were verified, and letters were sent to leading childhood anxiety researchers to request additional information. Lastly, the reference sections of all identified studies were examined to find additional qualifying material. This meta-analysis included three different searches. The first search included studies that (1) used students who directly met DSM-IV criteria for generalized anxiety and/or panic disorders, or were evaluated as exhibiting these disorders by means of a peer-reviewed, published instrument; and (2) measured any dimension of academic performance. The second search identified studies in which prevalence rates for anxiety disorders in children and adolescents with emotional behavioral disorders have been reported. The third search included studies that examined the effects of school-based intervention on some aspect of performance for students with anxiety disorders.

The first search, which included studies that reported the effects of anxiety on academic/school performance, identified eight studies. Seven of the eight studies found that anxiety was negatively associated with academic performance. Although results from these studies suggest that anxiety disorders can interfere with the school success of students who experience them, results from specific academic measures were not included in this review. Researchers from nine of the 11 studies reported reduced student reported anxiety symptoms levels with treatment relative to control groups. Of the nine studies, only one study (Kisleica, Baker, Thomas, & Reedy, 1994) examined change in

academic performance with treatment. Kiselica et al. implemented a preventive stress inoculation program (progressive muscle relaxation, cognitive restructuring, and assertiveness training) with ninth grade high school students ($n = 48$) reporting high levels of anxiety on a trait anxiety scale. Kiselica et al. reported reduced anxiety but there was no significant difference between control and treatment groups on quarterly GPAs. Given findings of a negative relationship between academic and anxiety, the authors proposed several plausible explanations for the lack of change in GPA including potential ceiling effects, insensitive measure of progress over short period of times, lack of targeted skill training to increase academic related performance (e.g., study skills).

A more recent study conducted by Wood (2006) implemented a child-focused CBT for children diagnosed with an anxiety disorder in grades kindergarten through sixth. Wood's longitudinal study included 40 participating students identified as experiencing anxiety who participated in a child-focused CBT program. Children received skills training on coping strategies of emotion recognition, relaxation, and cognitive restructuring as well as application of skills during in vivo exposure tasks of anxiety-provoking situations. Children participated in 12 to 16 sessions with 60 to 80 minutes per session. Pre, mid, and post treatment student ratings on the Multidimensional Anxiety Scale for Children (MASC; March, 1998) were used to assess change in anxiety symptoms and the parent ratings on the Child Anxiety Impact Scale (CAIS; Langley, Bergman, McCracken, & Piacentini, 2004) and Child Behavior Checklist-School (CBCL-School; social acceptance and school functioning scale) assessed levels of difficulties in children's school and social functioning. Parents' ratings on the CBCL internalizing scale

assessed levels of anxiety. Results indicated that the intervention was effective in reducing child anxiety as well as improving academic performance according to parent report. Both children and parents reported decreased anxiety on the MASC and CBCL. School performance, as measured by the CBCL and CAIS, showed significant improvement. This study did not include teacher report data, which would have been useful in evaluating the children's performance. It was also not clear how many children participated in exposure tasks with teacher support in school settings.

Other studies evaluated the effectiveness of a school-based anxiety treatment for students exhibiting test performance anxiety. Cheek et al. (2002) treated test anxiety in children in grades kindergarten through fifth ($n = 16$) using CBT components such as relaxation, cognitive restructuring, and exposure. Pretreatment, student participants reported feelings of anxiety and stress during tests and were below benchmark on either the reading or the mathematics portion a statewide test. Posttreatment data indicated that 75% of the students were above benchmark on the reading portion of the test and 94% were above benchmark on the Mathematics portion of the test. Additionally, all 16 students reported that they were more relaxed during the administration of the test after treatment.

Finally, Weems et al. (2009) implemented an anxiety focused CBT on a group of ninth grade ethnic minority students ($n = 25$) experiencing high levels of test anxiety after a natural disaster (hurricane Katrina) to examine the effects between first and fourth quarter GPA to measure academic outcomes or grades. Researchers also evaluated change in student ratings administered first and fourth quarters on the Test Anxiety Scale

for Children and the Reaction Index for Children assessing PTSD symptoms. Treatment consisted of psycho-education, relaxation, reward, negative thought restructuring, and exposure. Five treatment sessions were administered within 4 to 5 weeks. Results of the intervention (pre- to post-treatment versus pre- to pre-wait group) on test anxiety using a mixed factorial ANOVA indicated a significant effect of time, $F(1, 28) = 23.01$, $p = .001$ (two-tailed), and a significant intervention group $\times$ time interaction, $F(1, 28) = 6.37$, $p = .017$). Follow up paired samples t tests indicated a significant reduction in test anxiety from pre to post in the intervention group [$d = 1.2$], but no significant decrease in test anxiety in the wait group [$d = .32$]. Although no difference in TASC scores was found in the first quarter, the treatment group had lower TASC mean score than those in the wait group [$d = .74$] and the wait group showed a significant decrease in TASC scores after receiving treatment [$d = .83$].

Results of the Weems et al. (2009) study showed that the intervention (pre- to post-treatment versus pre to pre-wait group) on first and fourth quarter GPA also indicated a significant effect of time, $F(1, 80) = 176.99$, $p < .001$, and a significant group (treated $\times$ no treatment) interaction, $F(1, 80) = 4.71$, $p = .033$. Follow-up paired samples t tests indicated significant increases in GPA for both groups; however, there was initially a lower anxiety level with the nontest anxious group ($d = .44$); which was no longer present due to higher mean score for the anxious test group on the fourth quarter GPA measure ($d = .13$). These results suggest that treatment increased mean GPA of students exhibiting high levels of test anxiety to a similar mean of peers without test anxiety.

Even though these school-based studies included anxiety interventions that were

meant to improve academic performance and engagement, few studies measured academic outcomes. Only one study found change in GPA as a result of a school based CBT treatment program. Those studies that did measure academic engagement used a variety of measurements including GPA, CBCL-School, and benchmark tests. A review of these studies indicated that CBT interventions consisted of components such as psychoeducation, cognitive restructuring, relaxation, skills training, exposure, and reward (Good, Aroson, & Inzlicht, 2003; Miller et al., 2011). Results from select studies (Cheek et al., 2002; Masia-Warner et al., 2004; Weems et al., 2009; Wood, 2006) demonstrate that treatment with CBT components aimed to reduce anxiety symptoms may improve academic engagement.

Exposure Therapy and Adult Support

A critical component implemented within CBT for anxiety disorders is exposure to anxiety provoking situations, with support (Kendall et al., 2005; Silverman, Pina, & Viswesvaran, 2008). These exposure tasks are designed to provide increased opportunities for the child to use newly learned skills during anxious events, for longer periods of time, and more intense situations. Such exposure tasks are intended to help the child master the targeted skills, gain confidence, and learn more positive associations between feared situations and positive outcomes. However, few mental health providers implement exposure tasks because it can be difficult to perform in the clinical setting. There is also a lack of knowledge on the part of the clinicians on the positive effects when purposely triggering anxiety and on how to select and implement exposure tasks

that benefit clients (Peterman, Read, Wei, & Kendall, 2015).

Treatment would be further enhanced when exposure tasks are conducted during frequent problematic situations with the support of adults who are typically present to assist in controlling the situation. During exposure tasks, parents are directed to use "coaching" methods to promote a child's ability to manage or tolerate anxiety and not support escape behaviors during actual anxiety provoking situations (Silverman, Kurtines, Jaccard & Pina, 2009). Consistent support is also likely to help the child recognize emerging fears that might signal the use of newly mastered skills to other feared situations while preventing the development of new avoidance behaviors and or negative thinking patterns (Wei & Kendall, 2014).

Interestingly, child focused CBT outcomes were not enhanced when parents receive training as part of the CBT unless parents are trained on specific methods to support exposure tasks presented as homework assignments (Puleo & Kendall, 2011; Thulin, Svirsky, Serlachius, Andersson, & Öst, 2014). It should be noted, however, that parent training on how to support the child during exposure tasks has not been well researched. Instead, parents most frequently receive training on psychoeducation, restructuring of parent cognitions, and parent anger management. In addition, parents are typically taught to model coping skills, help problem solve, and apply contingent management strategies with their child at home. The modeling of coping strategies by the parent, allow the child to directly observe that positive outcomes are probable. However, this is difficult for many parents of children with anxiety because they often experience significant anxiety themselves leading to inadvertently modeling avoidance behaviors

(Bögels & Brechman-Toussaint, 2006).

Though there is little research on the effects of teacher support during exposure tasks, it is still likely that teachers who are trained and taught specific methods on how to support their students who experience anxiety can be of enhance students' skills. Adding teacher modeling, prompting, and support of coping skills in the school setting can supplement the role of the parent use in CBT. Moreover, teachers themselves may be experiencing anxiety as well as inaccurate beliefs or methods about how to best handle student distress. Under such circumstances, training on the purpose and expected outcome of exposure tasks may allow teachers to cope and intervene with behaviors that reduce rather than aggravate distress and avoidance over time.

Importantly, the inclusion of adult training on methods to decrease anxiety during exposure help reduce adult over-protective, over-involvement, and over-controlling behaviors that may impede a child's opportunity to learn how to independently manage anxiety (Peterman et al., 2015). Such negative adult reactions limit a child's learning opportunities to develop coping skills and a meaningful knowledge base that reminds the student that the situation can be managed. In this light, an advantage to implementing a school based CBT treatment is that it may include the delivery of exposure techniques with appropriate level of teacher support in academic situations (Kendall et al., 2012). King, Heyne, and Ollendick (2005) recommend that teachers prompt, encourage, and reward students to use a coping plan as well as implement positive behaviors and self-statements while students self-manage anxiety. Kendall et al. further suggested that examination of potential variables that may influence treatment outcomes in school

settings such as generalization strategies, therapy process variables, and level teacher involvement are needed. Teachers may enhance child focused treatment effects in the school setting by being given specific knowledge on how to best help anxious students remain engaged and not avoid difficult learning activities.

Conclusion

Studies have indicated a relationship that suggests that high levels of anxiety are associated with low academic engagement or school functioning (Kendall et al., 2012). Research outcomes suggest that CBT treatments were found to be effective in reducing anxiety when applied in the school setting, but few studies evaluated any type of academic outcome. Given the current state of the literature on anxiety interventions implemented in the schools, future researchers should seek to design and evaluate anxiety interventions that are feasible to implement in the school setting and evaluate academic outcomes as well as anxiety levels. Because experiencing anxiety symptoms such as worry or negative thinking often interferes with work completion and class participation, CBT may be a useful approach for children with anxiety that may be hindering academic engagement. Given that engagement in learning is an important student responsibility, it is important to monitor the degree that intervention promotes this expectation. Studies utilizing CBT have shown that parent support and training is beneficial in the delivery of exposure techniques because of the support in actual settings to increase normal engagement in daily functioning, though there is little research on teacher support to impact better school functioning. Additionally, few studies have used elementary age

students, and thus future research should evaluate the outcome of treatments that target elementary age students who experience anxiety or exhibit worry behaviors.

To date, there is no study in the anxiety literature that has specifically investigated the CBT treatment effects on daily school participation and performance of elementary students who are experiencing academic difficulties. Moreover, students benefit from adult support in the environment where problems occur such as prompts to use coping strategies, feedback and contingent reinforcement on a daily basis while learning how to cope and use skills to reduce anxiety (Girling-Butcher & Ronan, 2009). Thus, it is hypothesized that classroom intervention support on daily school tasks implemented after receiving a brief CBT will increase teacher rating on student academic engagement and decrease student reported anxiety levels relative to a baseline condition. Given this hypothesis, the following research questions were of primary interest in this study.

1. Is there a functional relation between a CBT exposure-based intervention and academic engagement for anxious elementary students?

2. Is there a functional relation between a CBT exposure-based intervention and subjective ratings of distress for anxious elementary students?

CHAPTER III

METHODS

Setting

Participants involved in this study were recruited from a public elementary school located in a suburban district in a western state. The school population consisted of approximately 768 students from kindergarten through sixth grade and consisted of 7.7% Hispanic or Latino, 0.6% Asian, 1.2% Black, 1.1 % Hawaiian or Pacific Islander, 0.4% American Indian or Alaskan Native, 85.9% White, and 3.1% multiple races. Approximately 25.4% of these students qualified for federal free or reduced lunch program and 9% received special education services.

Experimental assessment and treatment sessions were completed in groups, with three to four students in a quiet room within the students' school for the first portion of study assessment and treatment sessions. The primary researcher, a graduate student in an Ed.S. school psychology program, delivered treatment to participating students. The second portion of study treatment sessions occurred in the students' regularly attended classroom in the presence of classmates, the teacher, and the primary researcher.

Participants

Student participants were selected from teacher nominations of third to sixth grade students that would benefit from intervention to decrease anxiety symptoms and behaviors that were interfering with academic engagement. Included in this study were

five males (two in third grade and three in fifth grade) and three females (one in third

grade and two in fifth grade). All participating students were White native English

speaking students in general education, who met the following criteria: (1) reported by

the teacher as exhibiting poor academic performance in at least one subject area that

appeared to be a result of anxiety related behaviors, (2) reported by teacher as reading no

more than one grade below current grade level to disconfirm a severe skill deficit as a

potential reason for behavior problems and (3) provided parental written informed

consent and student assent for participation. After obtaining written parental consent and

student assent, students were further identified as experiencing anxiety based on a score

that fell within the at-risk or clinical range on an anxiety self-report measure (described

below). No student was using anti-anxiety medication treatment and/or currently

participating in treatment for anxiety. A total of 12 students were asked to participate in

this study, and although 10 of those students' parents and teachers agreed to participate,

only eight met inclusion criteria. Two students did not meet the criteria because they did

not exhibit poor academic performance in any area but exhibited anxious behaviors only.

Although these students were not included in this study, they still received treatment.

Measures

Functional Assessment

A functional assessment interview was conducted by the primary researcher with

student participants and their teachers separately (see Appendices A and B). Teachers and

students were asked to describe each student's anxiety and worry behavior that was

potentially interfering with their academic performance. Information was gathered from the interviews to develop hypotheses about the (1) type of behavior and academic problems occurring in the classroom and (2) the function of student's anxiety behavior such as receiving teacher attention, student attention, or work avoidance when displaying anxiety behaviors that may be supporting ineffective working behavior or inappropriate emotional regulation. A hierarchical list of school based situations that trigger anxiety from least to most anxiety-producing antecedent triggers and situations was also developed with teacher and student input (see Appendix C).

Screen for Child Anxiety Related
Emotional Disorders

The Screen for Child Anxiety Related Emotional Disorders (SCARED) was administered by the primary researcher to each participating student to measure anxiety symptoms experienced before and after treatment was administered. The SCARED is a self-report questionnaire designed to measure childhood anxiety symptoms and their sensitivity to treatment effects (see Appendix D). The questionnaire is intended for children ages 8 through 18 and contains 41 items with response options ranging from 0 (Not True or Hardly Ever True) to 2 (Very True or Often True). The SCARED measures childhood anxiety symptoms in terms of the DSM-IV and specifies symptoms of six factors: panic disorder, separation anxiety disorder, social phobia, obsessive-compulsive disorder, generalized anxiety disorder, and physical injury fears (Muris, Merckelbach, Gadet, Moulaert, & Tierney, 1999). Responses are summarized and interpreted as a Total score and subscales to estimate severity level and the presence of anxiety disorder.

Correlations between SCARED and the State-Trait Anxiety Inventory for Children (STAIC) were positive ($r = .69$, $p < .001$) for total anxiety core and subscales (Muris et al., 1999). Additionally, research supports concurrent validity of SCARED in that it correlates strongly with the Revised Children's Manifest Anxiety Scale (RCMAS) and the Fear Survey Schedule for Children-Revised (FSSC-R; Muris, Mayer, Bartelds, Tierney, & Bogie, 2001). Muris et al. (2001) concluded that the measure is sensitive to treatment in that scores on the SCARED decreased significantly following participation in CBT for anxiety disorders.

Subjective Units of Distress Scale

Subjective Units of Distress Scale (SUDS) ratings were used to frequently measure level and change in each student's self-reported feelings of anxiety. SUDS have been used in prior studies to measure both child and adult self-reported level of discomfort (Kaplan, Smith, & Coons, 1995), disturbance or distress (McCullough, 2002). A SUDS rating from 0 (relaxed) to 8 (freaking out), as used in prior studies (Kendall et al., 2004) was used in this study. Treatment studies show significant negative correlations between SUDS ratings and CBT programs that include exposure as a component, meaning that reported levels of anxiety decreased as exposure to more anxious provoking situations increased (Kaplan et al., 1995). Other significant correlations have been found between SUDS ratings and pulse and hand temperature (Thyer, Papsdorf, Davis, & Vallecorsa, 1984), Global Assessment of Functioning (GAF) Scale (-.45) and MMPI-2 (.35; Tanner, 2012), and the State-Trait Anxiety Inventory ($r = .69$; Kaplan et al., 1995).

In this study, each student was asked to create a hierarchy, or list of situations at

school during which the student experienced anxiety. The students were asked to report

their SUDS ratings on one item from their list (see Appendix E). Each student's reported

item was chosen based on the functional behavioral interview with the teacher, student

interview, and the frequency of the distressful situation. The SUDS ratings were collected

on this item for each student participant every treatment session in order to monitor

progress of anxiety reduction.

Direct Behavior Rating Scale

The Direct Behavior Ratings Scale (DBR) is a brief assessment method used to

frequently estimate student response to intervention (S. M. Chafouleas, Sanetti, Kilgus, &

Maggin, 2012). This method operationally defines behavior and uses a brief, low-

inference rating of that behavior over a specified period. The DBR includes trained

onlooker's direct observation of several student's target behaviors over a period of time

(e.g., 15 minutes) in the natural environment followed by the observers rating estimate of

the amount of the time a behavior occurred (between 0% to 100% of the time) during the

set observation period. Research on the utility of the DBR has shown it to be an effective

tool in monitoring behavior and behavior change (Chafouleas et al., 2012). Riley-

Tillman, Christ, Chafouleas, Boice-Mallach, & Briesch (2011) used test-retest

correlations over a week period on a 20-minute classroom observation looking at

academic engagement and disruptive behaviors and found it to be statistically significant,

falling within the low to high range (range = .31-1.00).

Two behaviors were monitored using DBR in this study. First, academic

engagement or an academic behavior specifically relevant to a student's treatment goal

was selected and operationally defined. The participants' teachers estimated daily academic performance or engagement as a target behavior of change for each participant's classroom-based problem. Additionally, the researcher also estimated academic engagement several times over the course of treatment and data collection. For example, academic engagement for a student may be defined as actively participating in the classroom activity (e.g., writing, answering a question, or talking about a lesson). Second, the teacher rated the percentage of time the student exhibited distress during the observation period. Student behavioral expression of distress varies thus distress was defined as one or more behaviors such as frustration, crying, irritability, clinging, fidgeting, agitation, defiance, resistance, anger outbursts, need for frequent reassurance, standing up frequently, asking a lot of questions, hyper-activity, rapid or disconnected communications, self-critical remarks that may be expressing negative thinking patterns such as imagining the worst or over-exaggerating the negatives, and/or physical complaints such as headaches, stomach problems, and tiredness.

The rating scale for each target behavior was a horizontal line with vertical markings at 10 equal gradients. The gradients were marked with three quantitative anchors: 0%, 50%, and 100%, at the first, middle and end gradient mark, respectively. Raters were asked to observe a student for a specific interval of time then estimate the percentage of time the student exhibited academic engagement by writing in the percentage on a Behavior Tracking Chart. An example DBR to be used for this study is presented in Appendix F.

Child Involvement Rating Scale

Child participation in treatment sessions was assessed using the Child Involvement Rating Scale (CIRS, Chu & Kendall, 1999). The rating scale includes six items that are rated by the treatment provider on a 6-point scale ranging from 0 (not at all present) to 5 (a great deal present). Four positive involvement items were rated: (a) "Does the child initiate discussion or introduce new topics?" (b) "Does the child demonstrate enthusiasm in therapy related tasks?" (c) "Does the child offer information about self (self-disclosure)?" and (d) "Does the child elaborate on points made by the therapist or demonstrate understanding?" Two negative involvement items were rated: (a) "Is the child withdrawn or passive (e.g., not responding to the therapist)?" and (b) "Is the child inhibited or avoidant in participation (e.g., not fully participating)?". Acceptable internal consistency (Chronbach's α = .73) and modest test-retest reliability (ICC = .59) was reported by Chu and Kendall (2004). The therapist completed this form once all sessions were completed for each participant to estimate overall participation.

Child Intervention Rating Profile

Student participants were asked to complete a modified version of the Child Intervention Rating Profile (CIRP) at the conclusion of the intervention, which assessed each student's subjective treatment satisfaction (see Appendix G). Questions evaluated the extent to which the program was perceived to be helpful and ability to improve behavior as well as school environment. The scale consisted of 7 items on a Likert Scale ranging from 1 ("I disagree very much") to 5 ("I agree very much"). The total score is the summation of the 10 items meaning that a higher score indicates a more effective

program. Turco and Elliot (1986) found the total score of CIRP to have good reliability
(coefficient alpha =.86).

Design

A nonconcurrent multiple baseline design (Harvey, May, & Kennedy, 2004) was
implemented to assess the effects of baseline, treatment, and classroom-based
intervention on daily student distress ratings and teacher direct school performance on
students exhibiting anxiety or worry symptoms that was interfering with academic
performance. The treatment phase consisted of a brief anxiety psychoeducational
intervention in a small group format. Direct intervention with the student was followed
by a classroom intervention to support the students' use of acquired skills in the
classroom environment. This design was selected because single case designs have been
endorsed by the evidence-based treatment movement to explore the effects of modified or
new treatment (Chambless & Hollon, 1998). Additionally, this design is appropriate
when outcomes are reversible after treatment is withdrawn and minimizes history factors
that may impact outcomes (Kratochwill et al., 2013). In this study, student rated anxiety
levels and teacher rated academic performance were evaluated for one to three weeks
prior to implementing and evaluating treatment effects. Treatment was implemented after
baseline data showed some stability as evidenced through a visual analysis.

Procedures

Recruitment

Student participants were identified by teachers using a Teacher Nomination

Form (see Appendix H) to identify and rate students who were at risk or have higher

levels of anxiety than the rest of the students and which were believed to be negatively

impacting the student's academic performance. Twelve identified students were provided

a packet with an informed consent form (see Appendix I), child demographic form

(Appendix J), and a return envelope, to take home to their parents. Parents were called by

a researcher to explain the study rationale, risks and benefits, and procedures of the study.

Students with parent agreement for their child's participation brought back the parent

written consent in a sealed envelope provided by researchers. Ten of the 12 students

returned the packets with parents' consent. While only eight of those students met the

criteria for this study, all 10 students received treatment.

Pretreatment Assessment

After parental permission and student assent were obtained, the student completed

the SCARED assessments. Participating students and their teachers then participated in a

functional interview assessment that included the development of the hierarchy of

stressful situations.

Baseline

No treatment was administered during baseline. Participating students were asked

to report highest level of distress experienced on a daily basis during one or two subject

areas that the teacher wanted to target. Teachers with participating students were asked to rate student academic behaviors on the DBRs at the end of each day. Data was collected daily for one to three weeks by the primary researcher.

Psycho-Educational Anxiety Intervention

Following baseline, a pyscho-educational intervention to learn how to manage anxiety symptoms was conducted with groups of three to four students. Groups were selected based on baseline data, students' age, as well as students' classroom schedules. The primary researcher, a graduate Ed.S. student in a school psychology program under the supervision of a Ph.D. licensed psychologist, administered this intervention. Skills based on three modified programs were used to administer treatment: FRIENDS, Worry Hill, and Coping Cats. Treatment sessions were conducted twice a week and were about approximately 20 minutes long to minimize the time students spent away from instruction in the classroom. Students receiving treatment participated in five sessions where students learned about worry and anxious body cues, how to normalize anxiety, positive thinking and cognitive restructuring, and emotional regulation. During these sessions, the students continued to modify the hierarchy of anxiety provoking situations they encountered from a little to a lot of anxiety. Students also developed and practiced specific coping skills and problem solving plans they could implement in the classroom when anxiety-provoking situations occurred. Students were taught using instructional strategies such as modeling, role-plays, prompts, and feedback from both the researcher and the teacher. An outline for these lessons is represented in Table 1. After these five sessions, students participated in two additional lessons to practice all strategies in analog

Table 1

Psycho-Educational Anxiety Intervention Outline

Lesson 1	Lesson 2	Lesson 3	Lesson 4	Lesson 5
Feeling recognition	Worry hill	Coping skills	Cognitive restructuring	Review lessons 1-4
Anxious body cues	Create hierarchy	Problem solving plans	Emotional regulation	Practice using coping strategies
Positive thinking				

situations similar to several anxious situations on the hierarchy list from least to most anxious rated levels. For each situation, the researcher did the expected steps while thinking aloud about thoughts and choices. Next, the child did role-plays with completion of a SUDS rating before, after, and at the end. This continued until anxiety was reduced by 50% or more or fell within a reasonable rating.

The SUDS data and DBR reports were continuously collected in the classroom with procedures used in baseline. After training, the therapist completed a CIRS for each participant to estimate student involvement during training.

Classroom Intervention

Following the psycho-educational intervention, students received the exposure portion of treatment. This was done by asking them to use their coping strategies on at least two situations on the student's hierarchy of anxious situations in the classroom with adult support. Additionally, information obtained from the functional assessment was incorporated in this section of the treatment phase to ensure that problematic behaviors were being targeted. As part of the classroom intervention that is described in Appendix

K, the student was given a weekly chart that listed coping skills and academic strategies that could be used when experiencing anxiety during a task/situation. Each intervention session began with the collaborative development of an academic engagement goal and the adult prompted the student to select useful skills on the chart to use when anxious. As the student completed the task the teacher/researcher checked in and specifically praised efforts and nonanxious behaviors, or prompted skill use. At the end of the session, the student completed a SUDS rating and the teacher completed a DBR of level academic engagement and distress. The student was given feedback to help the student recognize academic goal obtainment, successful strategies used, provide a verbal positive/self-praise statement about efforts and/or problem solve barriers for the next task. Participants also earned rewards of student choice for meeting goals of receiving specific adult ratings. The teacher implemented treatment for a brief part of one school day with the support of the researcher. The teacher also received ongoing support to increase the likelihood that the teacher would encourage his or her students to implement planned strategies. The primary researcher checked in with each teacher at least twice weekly to collect data as well as discuss the helpfulness of the intervention. In summary, the intervention consisted of goal setting, preplanning with visual cues, prompts, self-monitoring, specific feedback, and contingent rewards to support use of coping skills directly in the classroom.

Prior to the first classroom intervention session, several steps were taken to prepare for these sessions. First, the researcher trained the student and teacher on the intervention and finalized the hierarchy list. Next, the researcher collaborated with the

student and teacher to select the first task or situation to use skills in the classroom that is on the hierarchy list. Finally, students selected several rewards from a menu (see Appendix L) they would like to earn for meeting session goals. Following this preparation, the intervention sessions were implemented 3 to 4 times a week for several weeks.

Post Assessments

Immediately after classroom intervention sessions, students were asked to complete the SCARED and CIRP.

Fidelity of Experimental Procedures

Fidelity of the training sessions was assessed using a checklist completed by an independent observer watching videotapes of 30% of the psycho-educational and classroom intervention sessions for each participant. The integrity of experimental procedures was computed by dividing the number of steps correctly administered by researcher by the total number of procedural steps listed for each of the two experimental conditions and then multiplied by 100. Integrity of experimental procedures was 100% of the reviewed student training sessions.

CHAPTER IV

RESULTS

The effects of the intervention phase on teacher direct academic behavior ratings in the classroom setting and student distress ratings was assessed using visual inspection of the time-series data as well as comparison of mean percentage scores for all subjects for each experimental (Scruggs, Mastropieri, & Casto, 1987). Differences between baseline and the treatment condition will be discussed below using visual inspection of the time-series data for significant changes across level, trend, and variability within and between conditions.

An overview of each student's intervention detailed information including grade, group assignment, and targeted stressful event can be viewed in Table 2. Student's targeted stressful events ranged from certain class subjects to specific academic tasks. Each student's DBR targets, or academic engagement goals, along with self-selected coping strategies, and teacher reported stressors are also presented in Table 2.

Descriptive statistics for each student per experimental phase are presented in Table 3 for student daily stress ratings, teacher observed stress ratings, and student academic engagement percentage as rated by teachers. The effect size statistic listed in Table 3 were calculated using Cohen d (Cohen, 1988) by finding the difference between the mean of all baseline data and the mean of all data collected during the exposure phase, divided by the standard deviation of students' baseline phase. Visual analysis of academic engagement followed by distress rating results is presented below.

Table 2

Student Intervention Details Including Grade, Group Assignment, Targeted Stressful Event, Academic Engagement Goals (DBR Targets), Coping Strategies, and Teacher Reported Stressors

Student	Grade	Group 1, 2, 3 [a]	Targeted stressful event[b]	DBR targets	Coping strategies	Teacher reported stressors
Sofi	3	1	Independent writing assignments	Complete work independently. Appropriately seek teacher attention.	Calm breathing. Helpful thinking, "I can do" statements. Circle at least one thing to try first. Ask teacher for help after trying.	Parent illness
Dave	3	1	Whole class language arts instruction	On-task. Promptly follows directions.	Calm breathing. Helpful thinking, "I can do" statements. Ask teacher for help.	
Sam	3	1	Independent writing assignments	Complete work independently. No calls home.	Calm breathing. Helpful thinking, "I can do" statements. Ask teacher for help after trying. Be proud of yourself.	Death of a pet
Heidi	5	2	Reading/ language arts	Appropriately check in with teacher without crying.	Helpful thinking, "I can do" statements. Circle at least one thing to try first. Try before asking for help. Be proud of yourself.	
Jack	5	2	Whole class math instruction	On-task. Follows directions. Participate appropriately.	Calm breathing. Helpful thinking, "I can do" statements. Reward yourself.	
Jay	5	2	Group work during science	Participates in class discussions and groups.	Calm breathing. Helpful thinking, "I can do" statements. Work with a partner of choice. Be proud of yourself.	
Dean	5	2	Independent math assignments	Ask for help when needed. Work completion.	Calm breathing. Ask for help. Helpful thinking, "I can do" statements. Circle at least one thing to try.	
Mandy	5	3	Independent math assignments	On-task during math. Work completion.	Calm breathing. Helpful thinking, "I can do" statements. Circle at least one thing to try first. Ask teacher for help after trying.	Changes in math curriculum

[a]Groups based on baseline data, age, and student schedule with teacher input.
[b]Selected based on student hierarchy, teacher interview, and frequency of targeted event.

Table 3

Descriptive and Effect Size Statistics for Teacher Rated Academic Engagement (DBR), Teacher Rating of Student Distress, and Student Distress (SUDS)

Student participant		Academic-DBR		Distress-teacher		Distress-student	
		Baseline	Classroom intervention	Baseline	Classroom intervention	Baseline	Classroom intervention
Sofi	Mean	71.67%	86.67%	6.83	2.44	5.50	1.56
	SD	7.53	7.07	1.47	1.33	0.84	1.59
	Range	60-80	70-90	4-8	1-5	4-6	0-5
	ES d		1.99		-2.98		-4.71
Dave	Mean	48.33%	53.33%	5.83	2.22	0.67	0.00
	SD	23.17	24.49	2.32	1.99	0.52	0.00
	Range	20-70	10-90	2-8	1-6	0-1	0
	ES d		0.22		-1.56		-1.29
Sam	Mean	48.33%	82.50%	4.67	0.53	2.00	0.00
	SD	30.61	12.15	3.20	1.44	1.10	0.00
	Range	10-90	60-100	0-9	0-5	0-3	0-0
	ES d		1.12		-1.83		-1.83
Heidi	Mean	68.89%	80.00%	4.11	1.00	3.56	2.00
	SD	3.33	0.00	1.69	0.00	2.70	1.87
	Range	60-70	80-80	1-6	1-1	1-8	0-5
	ES d		3.33		-1.84		-0.58
Jack	Mean	70.00%	80.00%	3.56	1.00	2.67	1.60
	SD	17.32	0.00	3.09	0.00	2.74	2.07
	Range	30-80	80-80	0-8	1-1	0-8	0-5
	ES d		0.58		-0.83		-0.39
Jay	Mean	62.22%	80.00%	2.22	1.00	1.44	1.63
	SD	12.02	0.00	0.97	0.00	0.73	1.77
	Range	50-80	80-80	0-3	1-1	1-3	0-5
	ES d		1.48		-1.26		0.25
Dean	Mean	32.22%	70.000%	6.11	2.00	2.00	1.71
	SD	8.33	0.00	1.36	0.00	1.50	2.93
	Range	20-40	70-70	4-8	2-2	0-4	0-8
	ES d		4.53		-3.01		-0.19
Mandy	Mean	38.46%	80.00%	3.46	2.00	6.15	2.88
	SD	13.45	0.00	0.78	0.00	1.46	1.25
	Range	20-70	80-80	3-5	2-2	3-8	2-5
	ES d		3.09		-1.88		-2.24

Teacher Academic Engagement Student Outcomes

The teacher academic engagement ratings collected during baseline and classroom intervention phases are depicted in Figure 1 for visual analysis.

As shown in Figure 1, the average DBRs for all students was between 72% and 32%. Two students, Dave and Sam, showed a 50% and 89% decline in academic engagement performance over time during baseline. Jay, Dean and Mandy, showed variable performance at lower rang of percentages of engagement between, 60% and 20%. Sofi, Heidi and Jack had steady and higher engagement ratings that fell between 60% and 80%.

All eight students showed an immediate level change following direct training and the introduction of the classroom intervention condition. Moreover, all students showed greater academic engagement ratings during classroom intervention (Range = 53% to 87%) compared to average baseline performance. Following the decreased trend during baseline, Dave showed a 20% immediate increase followed by an increasing trend for the first week but maintained 60% engagement during the last three sessions. Sam immediately became more engaged and continued variable performance between 60% to 100% engagement. The remaining six students maintained a steady performance above 65% during the entire consultation condition. Using Cohen categorical suggested ranges (i.e., small, $d = .2$; medium, $d = .5$; large, $d = .8$), seven of the eight students showed a large program effect (Range, $d = 1.12$ to 4.53) and the remaining student showed a small effect ($d = 0.22$) on increased academic engagement from baseline to the classroom intervention phase (Cohen, 1988).
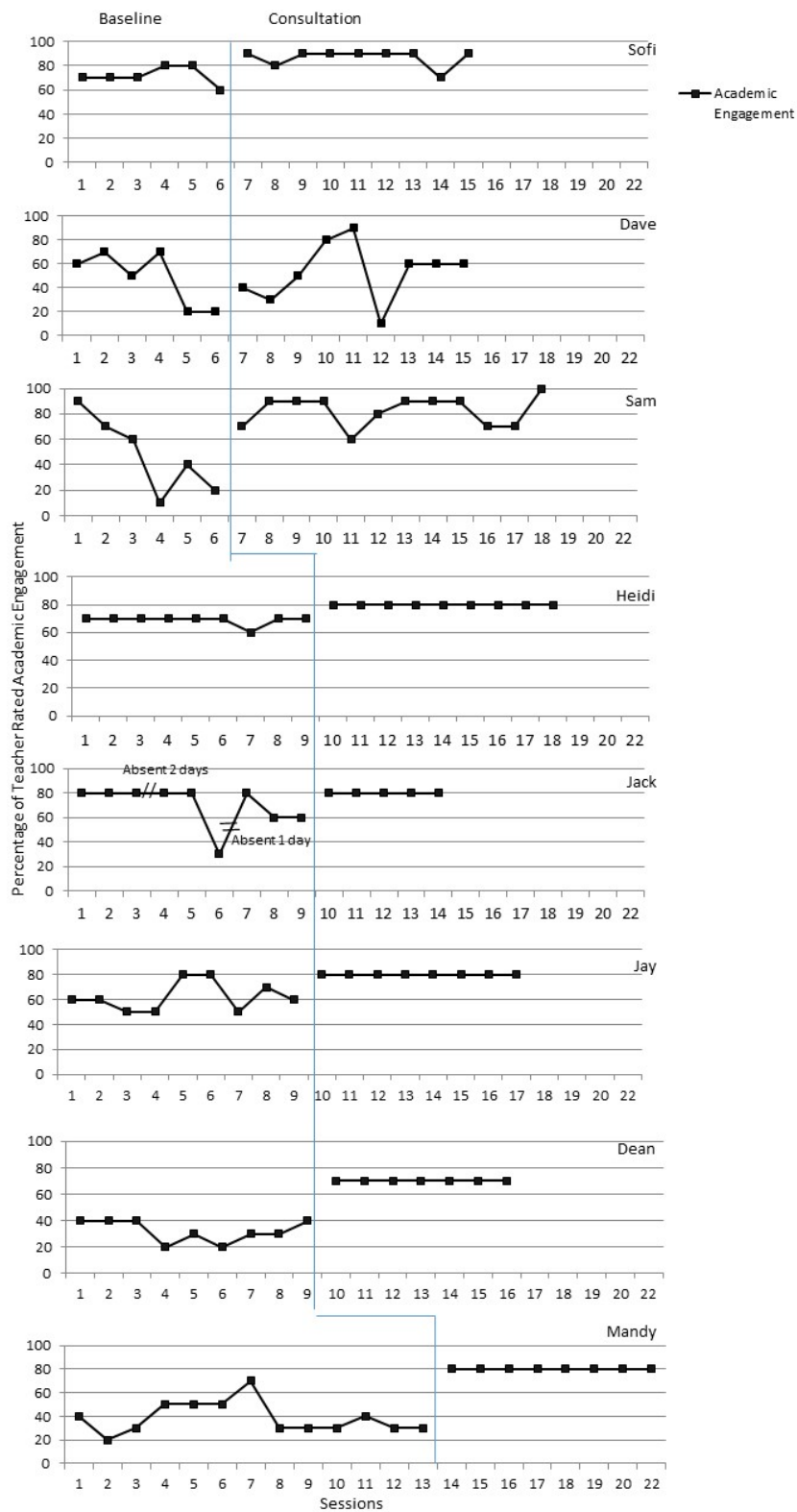
Figure 1. Teacher academic engagement ratings during baseline and classroom intervention conditions.

Anxiety Level Student Outcomes

Figure 2 show distress rating data including student ratings of distress (SUDS) and teacher ratings of student distress. Teacher and their student ratings differed during both conditions although baseline raters showed a wider gap between teacher and student ratings. During baseline, four teachers consistently rated more signs of distress and one teacher rated less signs of distress than their student self-ratings. Interestingly, Heidi's teacher ratings of Heidi's distress also showed greater distress during baseline, but her teacher ratings decreased as Heidi's ratings increased over time.

All students showed decreased levels of teacher and student distress with intervention relative to baseline, however, degree of change varied across students. Student SUDS effect sizes revealed high, moderate and small change, respectively to lower distress ratings from baseline to the classroom intervention condition. Dave and Sam did not report any distress (0 rating) during the classroom intervention phase and Sofi, Heidi, and Dean showed decreasing trends below baseline level. Jack, Jay and Mandy reports were variable although only one of these students reported a distress level greater than any baseline report. Effect size reveals a small increase for Jay, a moderate decrease for Sofi and a decrease in anxiety for the remaining seven students (range, $d =$ 0.2 to $d =$ 2. 2), respectively.

Teachers' ratings of student distress effect sizes revealed 2 students with medium change ($d = 3$), and 6 students with relatively small changes (range, $d = 0.8$ to 1.8), to a lower distress rating. Sofi, Dave, and Sam's teachers showed variable ratings but at a lower level with intervention than baseline. Teacher ratings of the remaining five students
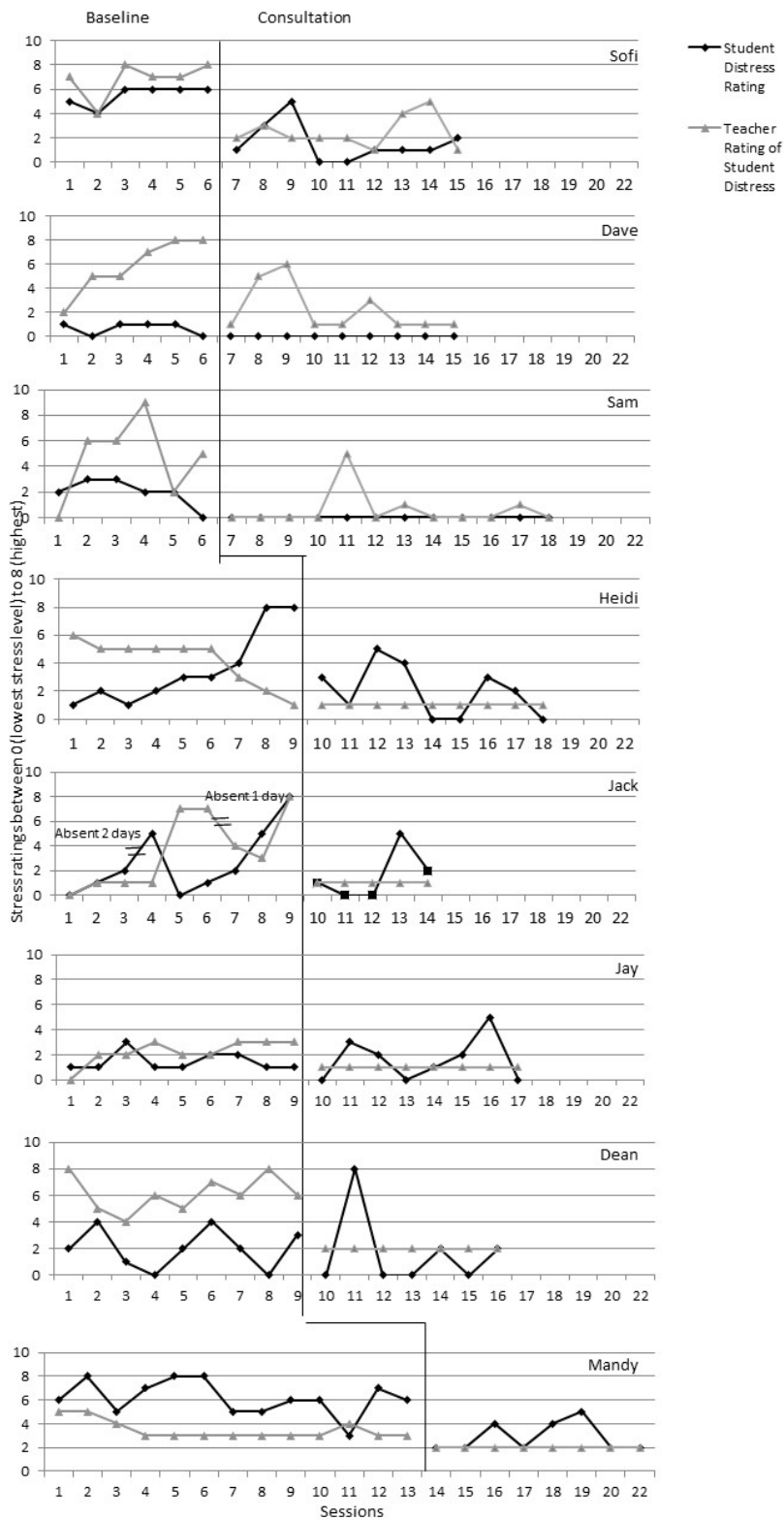
Figure 2. Student distress rating and teacher rating of student distress during baseline and classroom intervention conditions.

remained consistently at or lower than a SUDS rating of a two (i.e. students appeared to be content and untroubled).

Pre-Post Results

The SCARED rating scale was used as a pre and post measure for all participating students. An overall pre and post total anxiety score was calculated as well as a score for each subdomain including panic disorder, generalized anxiety disorder, separation anxiety disorder, social anxiety disorder, and significant school avoidance (see Table 4).

Table 4

Screen for Child Anxiety Related Disorders (SCARED): Child Version Pre and Post Study Conditions Ratings

Scale domains		Sofi	Dave	Sam	Heidi	Jack	Jay	Dean	Mandy
Total anxiety scores (41 items)									
	Pre	65*	43*	7	29*	32*	33*	25*	41*
	Post	57*	42*	20	29*	25*	35*	31*	23
Panic or somatic disorder (13 items)									
	Pre	15	11	0	9	7	3	3	7
	Post	10	13	6	8	3	11	10	4
Generalized anxiety disorder (9 items)									
	Pre	14	9	0	9	15	12	3	8
	Post	14	9	2	11	12	11	6	4
Separation anxiety disorder (8 items)									
	Pre	16	10	3	4	3	9	5	9
	Post	14	5	2	6	5	11	9	5
Social anxiety disorder (7 items)									
	Pre	12	11	4	5	4	5	9	12
	Post	12	11	6	3	2	7	11	8
Significant school avoidance (4 items)									
	Pre	8	3	0	2	3	4	4	6
	Post	7	4	4	1	3	6	4	2

*Total anxiety scores in the clinically significant range.

Figure 3 is a graphical representation of the Total scores for each student with the ≥25 criterion score suggesting the presence of an anxiety disorder. As presented in Figure 3, seven of the eight students' total scores fell within the clinical range for an anxiety disorder at the onset of the study. Five of these seven students showed similar ratings of anxiety symptoms on the post score. Sofi and Mandy showed lower scores but only Mandy's post score fell within the nonclinical range. The eighth student, Sam, showed increased levels between pre and post overall Total anxiety scores but both scores fell below the clinical range.
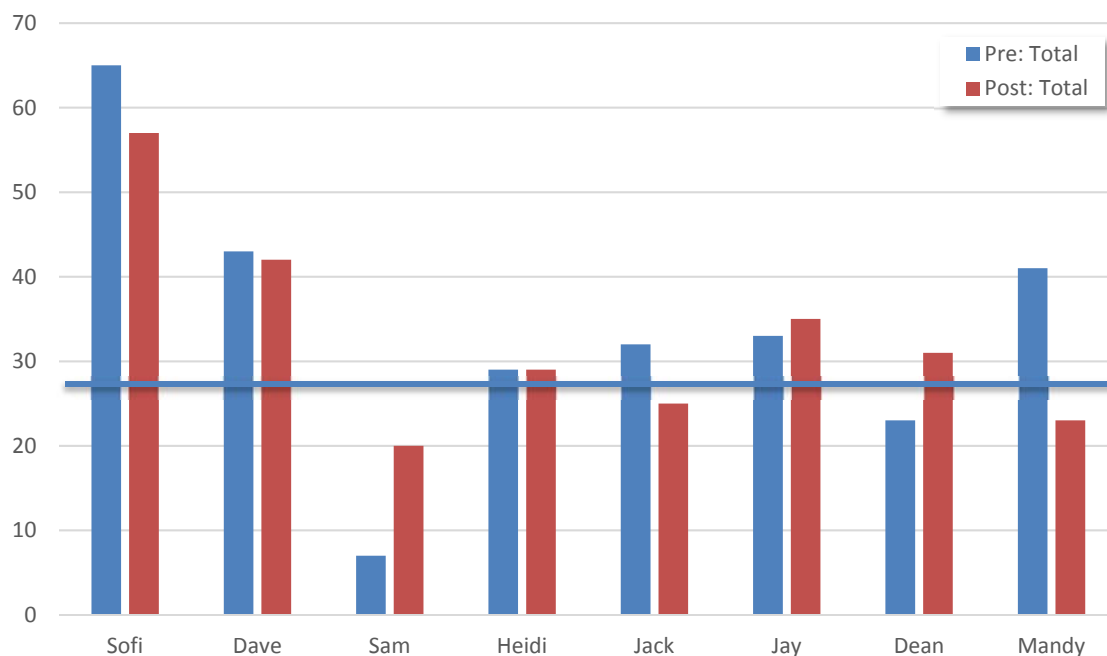

Figure 3. Total Screen for Child Anxiety Related Disorders (SCARED): Child version pre and post ratings.

Treatment Acceptability and Participation Rating

The CIRP was used to assess participants' treatment satisfaction. The average score of all eight participants for each statement on the rating profile (see Table 5) indicated that students agreed that the intervention was helpful. The CIRS was used to assess participation in treatment sessions is also an indicator of student acceptability of the procedures. Average scores as completed by the therapist indicate that participation was present for the majority of the students (see Table 6).

Teachers also rated overall satisfaction with the treatment by rating three statements about the treatment (i.e., 1= Strongly disagree to 6= Strongly agree). Results indicate that teachers perceived the intervention to have improved important student behaviors (M = 5.5), to be an acceptable intervention (M = 6.0) and that they would use the intervention with other students (M = 5.5).

Table 5

Average Rating Scores for Participant Responses on the Children's Intervention Rating

Statements	Average rating of participants
The things used to deal with the problem were fair.	1.3
The teacher/parent was too harsh (mean).	5
The things used to deal with the problem might cause problems with my friends.	4.8
There are better ways to handle this problem.	3.8
The things used would be good for other children.	1.6
I like the things used to handle this problem.	1.6
The things used for this problem would help other children do better in school.	1.6

Note. Scale: 1 = I agree very much to 5 = I disagree very much.

Table 6

Average Scores on the Child Involvement Rating Scale

Questions	Average ratings of student involvement
Does the child initiate discussion or introduce new topics?	4.1
Does the child demonstrate enthusiasm in therapy related tasks?	4.3
Does the child offer information about self (self-disclosure)?	4.5
Does the child elaborate on points made by the therapist or demonstrate understanding?	4
Is the child withdrawn or passive (e.g., not responding to the therapist)?	0.5
Is the child inhibited or avoidant in participation (e.g., not fully participating)?	0.4

Note. Scale: 0 = Not at all present to 5 = A great deal present.

CHAPTER V

DISCUSSION

Considering that children who experience excessive anxiety or worry often struggle with academic engagement, additional research on improving academic engagement by reducing anxiety in the school setting is warranted. The findings for this study extend to the research literature regarding anxiety reduction and its impact on academic engagement (Cheek et al., 2002; Schoenfeld et al., 2008; Weems et al., 2009; Wood, 2006). Specifically, the present findings indicated that a modified anxiety treatment with a classroom intervention is effective in reducing anxiety and increasing academic engagements for students who struggle with anxiety symptoms in the classroom. All participating students showed greater academic engagement ratings means during classroom intervention compared to average baseline performance. Anxiety outcomes varied according to measures used. The SCARED results showed little to no improvement in anxiety reduction, however, the teacher and student ratings of student distress showed that most students reported decreased anxious distress relative to baseline.

Although brief, the intervention consisted of several components that may explain decreased distress and increased work productivity. First, hyper arousal interfering with student ability to function or causing avoidance of academic activities may have been better managed by the student after improving recognition of hyper-aroused emotions and strategies to regulate emotions that accompanies inattention, frustration or hypervigilance (Kendall et al., 2006). Exposure therapy with teacher support, similar to parent support in

prior research (Silverman et al., 2009), appeared to be effective as participants used their new regulating skills. Gradually experiencing more distressful activities with success may have also reduced time worrying during class by proving that failure or making mistakes do not occur as expected. It should be noted that teacher praise and feedback attention may have been positively reinforcing as well as providing information about further use of emotional regulation or academic support strategies. Teacher support during feared activities may have made internal tensions more tolerable and decreased aversive thoughts, thus decreasing avoiding behaviors.

The SCARED results showed that 50% of eight students showed a decrease and 50% showed an increase in self-anxiety ratings from baseline to post treatment. A possible explanation for the increase could be that as part of the education portion of treatment, participating students were taught how to better recognize the presence of anxiety as physical symptoms were taught and reviewed. This could have made the students more aware of when they were experiencing anxiety thus impacting the self-reported SCARED results after baseline. Additionally, many questions on the SCARED were related to broad symptoms of anxiety and were not all school-based. This may have caused SCARED results to be less sensitive to change then distress ratings.

Interestingly, the student reported measures, SUDS and SCARED showed less improvement in anxiety reduction when compared to teacher report. This may be due to students' increased awareness of anxiety symptoms or the broad questions on the SCARED. These mixed findings could have been related to other factors as well. During the study teachers shared that some of the students had outside experiences that may have

impacted levels of anxiety during treatment. Some examples included parent illness, death of a pet, and change in curriculum (see Table 1). It should be noted that there may be other factors, not reported, that could have also impacted student anxiety levels.

Practical Implications

This study extended the current literature by combining a brief package of mental health components that are typically implemented in school settings by school psychologists: functional behavior assessment, direct skills training, and teacher consultation. Using a brief problem solving consultation approach (Hurwitz, Kratochwill, & Serlin, 2015), distress behaviors related to anxiety were identified, behavioral functions analyzed, and a hypothesis for intervention planning to replace avoidance or escape behaviors was formed. Individualized replacement behaviors that interfered with academic performance were decided upon to teach and practice during student training sessions. This process then included student training similar to clinical CBT approaches, followed by class intervention supports. Teachers were trained and instructed to use praise and offer feedback to students when replacement behaviors were used and teachers provided special acknowledgment when improvements were achieved. Teachers and students followed a visual "coping map" that prompted students to recognize trigger events, beginning distresses, and or emotions as a cue to a potential problem. Teachers were asked to encourage student to engage in trained emotion regulation strategies to complete academic tasks when calmer (Suveg et al., 2006).

Although Multi-Tier System of Supports (MTSS) is becoming more established

as a means to support academic and behavior needs, many schools are still undecided about the use interventions supporting student well-being. The intervention intensity for Tier 2 and Tier 3 may be contributing factors to this indecisiveness may include number, frequency and duration of sessions, group size, number of added individualized components, and staff providing support (Harlacher, Nelson Walker, & Sanford, 2010). The findings in this study showed positive change with a few direct training sessions conducted in small groups with a school psychologist (Suvig et al., 2006). Additionally, positive outcomes were observed with a 20 min teacher training session and weekly follow-up sessions to review student progress with gradual exposures to aversive academic activities. This suggests that the intervention used in this study may be an efficient first attempt as a Tier 2 assessment for determining if more intensive interventions are needed.

The collaboration between the teachers and school psychologists also played a valuable role in supporting student's behavior change. Although direct training is commonly implemented by mental health providers, few implement exposure in-vivo sessions (Kendall et al., 2005). In this study, a school psychologist taught teachers, similar to parent training in prior research (Silverman et al., 2009), how to support student engagement in feared academic activities. This was then followed by the recognition of successful efforts to participate in the activity. These successful experiences in the classroom weaken students' previously-learned connections between fears, thoughts and emotion about academic work and replaces them with more positive expectations. Having teacher support presents a safe space in student's everyday

environment where they can continue to learn how to confront distress and continue in learning activities. School psychologist planning of graduated sessions with follow-up support also provided frequent feedback, problem solving, and assessment of appropriate level to support continued student engagement in the entire difficult activity so that the student could fully experience the activity using new strategies and experience a positive outcome.

Additionally, teachers were guided on how to change their own responses and coping strategies to child distress. Teachers were taught not to react to student avoidance and anxiety behaviors with over-control, over-protection, intrusiveness, and rejection. Instead, teachers guided students to use intervention strategies listed on the copping map and to praise students' efforts and successes (McLeod, Wood, & Weisz, 2007).

Implementing an intervention when avoidance behaviors first emerge is important in breaking behavior patterns that interfere with learning. If left unchecked, student behaviors and teacher responses become more consistent, more intensive, and are often connected to additional avoidance behavior, all of which adversely affect teacher time. The effect of brief intervention, however, was not compared to extended CBT provided in school or clinic setting and long-term impact was not evaluated. Thus, future research is warranted to examine the percent of students that would respond to this type of brief intervention as opposed to those who would further benefit from more extensive or individualized services.

Limitations and Future Research

Though the present study contributes to the field of research regarding the impact of anxiety reduction on academic engagement, several limitations of this study suggest areas for further research. First, the generalization of the results to other students who experience and struggle with academic engagement due to anxiety is limited given the small sample of students and the homogeneous nature of the sample. All students were White, native English speakers, and attending one elementary school. Moreover, limited data collection during a specified anxiety-provoking situation made it impossible to determine if the skills being taught and reinforced were generalized throughout the rest of the day. The progress monitoring data did not show whether or not students were using the skills learned and the teacher was implementing the intervention to increase academic engagement throughout the day. More research is required to examine the effectiveness of reducing anxiety on academic engagement over time with students in other grades and with diverse experiences.

The second limitation was the lack of understanding of which components of the intervention were primarily responsible for positive outcomes observed. Given the intervention was implemented in the school setting, where time and resources are limited, further analysis of the separate effects of each intervention component or different mix of components may identify steps for optimal outcomes. The results of component analysis studies may distinguish optimal intervention strategies for Tier 2 and Tier 3 level interventions. It is also difficult to determine the degree that the teachers may have benefited from more training on ignoring undesired avoidance or anxious behavior while

praising student efforts towards academic goals. Prior to starting the intervention, teachers reported reinforcing behaviors such as students constantly checking in with the teacher to obtain attention or asking to go home to escape work. This occasionally occurred during the class intervention. Continued reinforcement of these behaviors may have decreased student choice to use new replacement behaviors and thus making it less likely for individual students to succeed with their specific academic engagement goal.

A third limitation was that the measurements used to monitor progress were subjective measures and they were used during a short period of time throughout the day. As teachers were tracking DBR to monitor the academic engagement of each student, it is possible that their personal feelings or opinions tainted the true effects the intervention being implemented. Prior to the intervention, teachers and students had developed histories and patterns of behavior that could have impacted how the student's behavior was being perceived. Additionally, the students self-monitoring their own perceived feeling of anxiety as collected by SUDS ratings is subjective and could be affected by personal factors. In further research it may be beneficial to include additional data such as observations or work samples to gather objective data that may or may not support subjective ratings. The CIRS while still subjective, was observation data used to measure student involvement and participation. It should be noted that the primary researcher only completed the CIRS once, after treatment was administered. Therefore, in future research, it may be beneficial to have the CIRS completed several times throughout treatment to get a more accurate representation of student participation.

In sum, with consideration of the limitations, the results of this study show

promise for school based mental health support for students experiencing anxiety and distressful behaviors resulting in teacher attention, interruptions or avoidance of academic tasks. This intervention, conducted in the school setting, showed promising outcomes that a modified anxiety treatment with adult support can be effective in reducing anxiety and increasing academic engagement.

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APPENDICES

Appendix A

Problem Identification Interview - Modified

Problem Identification Interview – Modified

Student: _____   Grade: _____   Date: _____

Thank you for taking the time to meet with me. My goal is for me to start getting a better understanding about what may help the child. Today I would like to ask you some questions about your concerns about the child.

1. Are there specific behavioral problems with his or her anxiety or worrying that concerns you? What does the child do when he or she is anxious?

(Quiet, not paying attention, getting up out of his seat all the time, asking a lot of questions, going to the bathroom a lot, constant need for reassurance, excessive need to know new routine, getting in other kids' spaces, hyper-vigilant / worry about work, other kids, following rules, overwhelming behaviors such as anger, crying, hard time expressing what is wrong, pessimism and negative thinking patterns such as imagining the worst, over-exaggerating the negatives, self-criticism, restlessness, irritability, opposition/ defiance, constant worry about things that might happen or have happened, physical complaints resistance /avoiding doing things, excessive clinginess, procrastination, withdrawal from activities)

2. About how many times a day or week do these behaviors occur?

3. Relative to other student in your class, is this student meeting expectations, (yes) or (no)? What subjects is a struggle due to anxious behaviors or worry?

Academic area	*Meeting expectations?*	*Struggling due to anxiety?*
Reading	**Yes No**	**Yes No**
Math	**Yes No**	**Yes No**
Writing	**Yes No**	**Yes No**
Work completion	**Yes No**	**Yes No**
Following directions	**Yes No**	**Yes No**
Other?	**Yes No**	**Yes No**

4. Relative to other student in your class, is this student doing fine with these skills?

Academic area	*Meeting expectations?*
Social skills	**Yes No**
Emotional regulation	**Yes No**
Coping skills	**Yes No**
Problem solving skills	**Yes No**
Assertiveness	**Yes No**
Communicating thoughts and feelings	**Yes No**
Peer social support	**Yes No**

Summarize statement: "You are most concerned with . . . and this problem occurs about . . . times per day. Is that right?"

Now I will be asking some questions to get an idea about when it is happening and what is not working for you and the student. As I ask questions, please give me specific examples.

5. What happens <u>before</u> worrying behaviors occurs? Are you aware of anything that appears to cause the student to worry? What factors on the classroom or school environment that seems to set him or her off?

6. What happens when the student exhibits problem behavior? How do you, other adults, or peers respond? Is there anything that he/she seems to avoid or escapes from when the student exhibits the behavior? (work, social activities, etc.)

7. What seems to calm him or her? What seems to escalate the behavior?

Summarize ABC statement: "You said it appears that the problem behavior often occurs when...and when or after the behavior occurs then several things happen... Does this sound correct?"

8. Let me ask about what behaviors are expected or some goals. What would you like to see the child do instead of the problem behavior?

Summarize Problem with Expectations: Let's see. The main problem is . . . However, he/she needs to . . . Is that right?

9. What is the child good at? What are the child's strengths?

Appendix B

Student Interview Form

Student Interview Form

Everyone has easy times at school and have things that they really like about school. And everyone has some times when things are harder for them or times when they have problems and worries. Children often feel like there are jumping jelly beans in their belly during problem or worry times. They don't really have jumping beans in the belly but it feels like that sometimes. Some children feel nervous or jittery. What are some things that kids worry about or get that jumping jelly bean feeling at school?

But everyone would say that different things are easy and different thing are hard. I would like to ask you some questions to find out the easiest and hardest time for you.

1. What are your favorite activities at school? Who are your favorite friends?

2. When do you think that you have the fewest problems in school? When is it easiest for you? (When, Where, Who?)

Now let's talk about the harder times at school. Let's write down some things that are the hardest, most distressful or worry times in school. I am going to read off some situations. Tell me what thermometer box you would place it? (Use worksheet –read situations, write numbers in box)

3. Are there others we not list? Are there other situations that you most want to make better?

4. Why do you think you have problems or worry times?

5. What changes could be made so you have fewer problems with _____?

Appendix C

Student Hierarchy

Student Hierarchy

8- Flipping Out

7- Terrified

6- Afraid

5- Nervous

4- Upset

3- Unsure

2- Bothered

1- Okay

0- Relaxed

1. Completing work
2. Writing on the board in front of class
3. Talking/working with peers
4. Asking teacher questions in class
5. Answering questions in class
6. Giving a presentation in class

7. Turning in work
8. Taking tests
9. Asking for help
10. Independent work
11. Routine interrupted
12. Reading out loud in class

Appendix D

Screen for Child Anxiety Related Disorders (SCARED)

Screen for Child Anxiety Related Disorders (SCARED)
CHILD Version—Page 1 of 2 (to be filled out by the CHILD)

Developed by Boris Birmaher, M.D., Suneeta Khetarpal, M.D., Marlane Cully, M.Ed., David Brent, M.D., and Sandra McKenzie, Ph.D., Western Psychiatric Institute and Clinic, University of Pittsburgh *(October, 1995)*. *E-mail:* birmaherb@upmc.edu

See: Birmaher, B., Brent, D. A., Chiappetta, L., Bridge, J., Monga, S., & Baugher, M. (1999). Psychometric properties of the Screen for Child Anxiety Related Emotional Disorders (SCARED): a replication study. *Journal of the American Academy of Child and Adolescent Psychiatry, 38*(10), 1230–6.

Name: _____   Date: _____

Directions:
Below is a list of sentences that describe how people feel. Read each phrase and decide if it is "Not True or Hardly Ever True" or "Somewhat True or Sometimes True" or "Very True or Often True" for you. Then, for each sentence, fill in one circle that corresponds to the response that seems to describe you *for the last 3 months*.

	0 Not True or Hardly Ever True	1 Somewhat True or Sometimes True	2 Very True or Often True	
1. When I feel frightened, it is hard to breathe	O	O	O	PN
2. I get headaches when I am at school.	O	O	O	SH
3. I don't like to be with people I don't know well.	O	O	O	SC
4. I get scared if I sleep away from home.	O	O	O	SP
5. I worry about other people liking me.	O	O	O	GD
6. When I get frightened, I feel like passing out.	O	O	O	PN
7. I am nervous.	O	O	O	GD
8. I follow my mother or father wherever they go.	O	O	O	SP
9. People tell me that I look nervous.	O	O	O	PN
10. I feel nervous with people I don't know well.	O	O	O	SC
11. I get stomachaches at school.	O	O	O	SH
12. When I get frightened, I feel like I am going crazy.	O	O	O	PN
13. I worry about sleeping alone.	O	O	O	SP
14. I worry about being as good as other kids.	O	O	O	GD
15. When I get frightened, I feel like things are not real.	O	O	O	PN
16. I have nightmares about something bad happening to my parents.	O	O	O	SP
17. I worry about going to school.	O	O	O	SH
18. When I get frightened, my heart beats fast.	O	O	O	PN
19. I get shaky.	O	O	O	PN
20. I have nightmares about something bad happening to me.	O	O	O	SP

Screen for Child Anxiety Related Disorders (SCARED)
CHILD Version—Page 2 of 2 (to be filled out by the CHILD)

	0 Not True or Hardly Ever True	1 Somewhat True or Sometimes True	2 Very True or Often True	
21. I worry about things working out for me.	O	O	O	GD
22. When I get frightened, I sweat a lot.	O	O	O	PN
23. I am a worrier.	O	O	O	GD
24. I get really frightened for no reason at all.	O	O	O	PN
25. I am afraid to be alone in the house.	O	O	O	SP
26. It is hard for me to talk with people I don't know well.	O	O	O	SC
27. When I get frightened, I feel like I am choking.	O	O	O	PN
28. People tell me that I worry too much.	O	O	O	GD
29. I don't like to be away from my family.	O	O	O	SP
30. I am afraid of having anxiety (or panic) attacks.	O	O	O	PN
31. I worry that something bad might happen to my parents.	O	O	O	SP
32. I feel shy with people I don't know well.	O	O	O	SC
33. I worry about what is going to happen in the future.	O	O	O	GD
34. When I get frightened, I feel like throwing up.	O	O	O	PN
35. I worry about how well I do things.	O	O	O	GD
36. I am scared to go to school.	O	O	O	SH
37. I worry about things that have already happened.	O	O	O	GD
38. When I get frightened, I feel dizzy.	O	O	O	PN
39. I feel nervous when I am with other children or adults and I have to do something while they watch me (for example: read aloud, speak, play a game, play a sport).	O	O	O	SC
40. I feel nervous when I am going to parties, dances, or any place where there will be people that I don't know well.	O	O	O	SC
41. I am shy.	O	O	O	SC

SCORING:

A total score of ≥ **25** may indicate the presence of an **Anxiety Disorder**. Scores higher than 30 are more specific. **TOTAL =**

A score of **7** for items 1, 6, 9, 12, 15, 18, 19, 22, 24, 27, 30, 34, 38 may indicate **Panic Disorder** or **Significant Somatic Symptoms**. **PN =**

A score of **9** for items 5, 7, 14, 21, 23, 28, 33, 35, 37 may indicate **Generalized Anxiety Disorder**. **GD =**

A score of **5** for items 4, 8, 13, 16, 20, 25, 29, 31 may indicate **Separation Anxiety SOC**. **SP =**

A score of **8** for items 3, 10, 26, 32, 39, 40, 41 may indicate **Social Anxiety Disorder**. **SC =**

A score of **3** for items 2, 11, 17, 36 may indicate **Significant School Avoidance**. **SH =**

For children ages 8 to 11, it is recommended that the clinician explain all questions, or have the child answer the questionnaire sitting with an adult in case they have any questions.

The SCARED is available at no cost at www.wpic.pitt.edu/research under tools and assessments, or at www.pediatric bipolar.pitt.edu under instruments.

March 27, 2012

Appendix E

Subjective Units of Distress

Subjective Units of Distress

Monday	Tuesday	Wednesday	Thursday	Friday
8- Flipping Out 7- Terrified 6- Afraid 5- Nervous 4- Upset 3- Unsure 2- Bothered 1- Okay 0- Relaxed	8- Flipping Out 7- Terrified 6- Afraid 5- Nervous 4- Upset 3- Unsure 2- Bothered 1- Okay 0- Relaxed	8- Flipping Out 7- Terrified 6- Afraid 5- Nervous 4- Upset 3- Unsure 2- Bothered 1- Okay 0- Relaxed	8- Flipping Out 7- Terrified 6- Afraid 5- Nervous 4- Upset 3- Unsure 2- Bothered 1- Okay 0- Relaxed	8- Flipping Out 7- Terrified 6- Afraid 5- Nervous 4- Upset 3- Unsure 2- Bothered 1- Okay 0- Relaxed

Appendix F

Direct Academic Behavior Rating Form

Direct Academic Behavior Rating Form

Directions: Place a dot on the line that best reflects the percentage of the time the student exhibited the specified behavior during the observation session.

Specific behaviors are defined as follows:

_____.

Academically Engaged Behavior: is actively or passively participating in the classroom activity. For example: completing class work, writing, raising his/her hand, answering questions, talking about the lesson, listening to the teacher, reading silently, or looking at instructional materials.

The target student was academically engaged _____% of the time.

| | | | | | | | | | |
|0|1|2|3|4|5|6|7|8|9|

0%   50%   100%
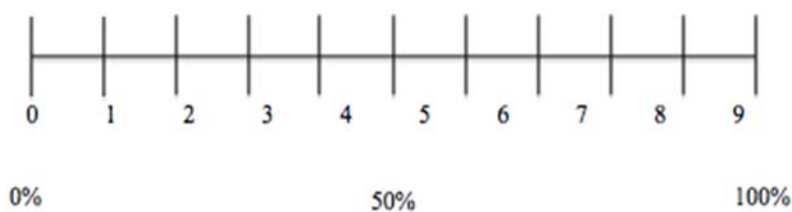
Student Distress: Student behavioral expression of distress varies thus distress will be defined as one or more behaviors such as frustration, crying, irritability, clinging, fidgeting, agitation, defiance, resistance, anger outbursts, need for frequent reassurance, standing up frequently, asking a lot of questions, hyper-activity, rapid or disconnected communications, self-critical remarks that may be expressing negative thinking patterns such as imagining the worst or over-exaggerating the negatives, and/or physical complaints such as headaches, stomach problems, and tiredness.

The target student appeared to be distressed _____% of the time.

| | | | | | | | | | |
|0|1|2|3|4|5|6|7|8|9|

0%   50%   100%
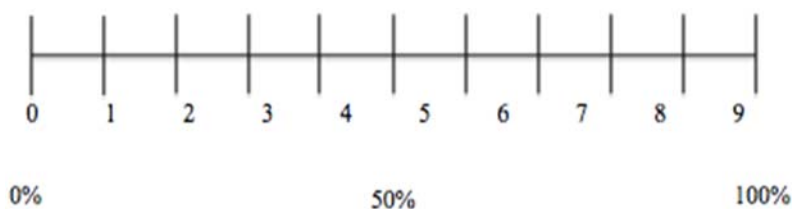
Appendix G

Children's Intervention Rating Profile

Children's Intervention Rating Profile

We are very interested in learning your ideas about the program that you are now finishing. Below are some sentences. You may or may not agree with the sentences. For each one, please circle the number that describes how much you agree or disagree with the statement. Use the following guide:

1 = I agree very much
2 = I sort of agree
3 = I don't agree or disagree
4 = I sort of disagree
5 = I disagree very much

For example, mark how much you agree with this statement

	I agree very much				I disagree very much
I love pizza.	1	2	3	4	5

		I agree very much				I disagree very much
1.	The things used to deal with the problem were fair.	1	2	3	4	5
2.	The teacher/parent was too harsh (mean).	1	2	3	4	5
3.	The things used to deal with the problem might cause problems with my friends.	1	2	3	4	5
4.	There are better ways to handle this problem.	1	2	3	4	5
5.	The things used would be good for other children.	1	2	3	4	5
6.	I like the things used to handle this problem.	1	2	3	4	5
7.	The things used for this problem would help other children do better in school.	1	2	3	4	5

Appendix H

Teacher Nomination Form

Teacher Nomination Form

A number of students in classrooms are experiencing levels of anxiety that impinge to some degree on their level of functioning with schoolwork. We are interested in identifying those students who are more withdrawn, distressed and/or are more worried than other children his or her age and whose academic performance is believed to be negatively affected. These children are also having a hard time managing stress and worries when they encounter certain stressors in the classroom.

These students may be rather quiet, shy, cautious and withdrawn. Other students may act out with frustration, crying, and avoidance. Often these children just seem to be restless, less focused, irritable, clingy, fidgety, needing for frequent reassurance, avoidant, or asking a lot of questions. These students may appear hyper-vigilant /over worry about following rules, having hard time expressing what is wrong, having negative thinking patterns such as imagining the worst, over-exaggerating the negatives, and/or self-critical.

We are interested in identifying children who would benefit from improvement in a training program designed to help increase academic engagement. To do this we will teach and support children a number of different ways such as thinking, behaving, and reacting to situations that help him or her feel less anxious and worried in the classroom. These students would work with us for 8 to 10 weeks for about 30 minutes a week. We would also share some topics with the student teachers to help prompt and praise students for using skills taught in that program.

Names of Students (In order of most concern to least concern):
1. _____
2. _____
3. _____
4. _____
5. _____
6. _____

Appendix I

Informed Consent

Dear Parents,

We are writing to request permission to include your child in a study with Utah State University (USU) Psychology Department that is finding ways to support students who are experiencing stress or worries at school. You have been asked to take part because you are a parent of a child who may benefit from learning more ways to lower and cope with stress or frustration that is getting in the way of completing school assignments or engaging in academic tasks. Professor Donna Gilbertson and graduate student / School Psychology intern Lychelle Leatham, both in the Department of Psychology at Utah State University, are conducting this research study with 6 students.

What will your child be doing?
If you agree to allow your child to participate, the following will happen to you and your child.

1) You will be asked to complete the attached sheet about your child. Please turn in the sheet with this form if you wish for your child to participate in this program.
2) We will meet with your child's teacher for about 15 minutes and with your child to give several questionnaires for about 20 minutes to gather information about what may help your child. Your child will be asked to rate their anxiety level on a thermometer rating scale for several academic tacks. Also, your child's teacher will be asked to rate your child's academic engagement behavior at the end of each day for one to three weeks.
3) Your child will work with Lychelle Leatham for about 4 weeks on the following steps: how stress and frustration feels, ways to cope with worry, skills to manage stress, and role plays to practice these skills. These sessions will be audio-taped for understanding the major discussion points. Names will be coded to protect privacy. Once these 30-minute sessions are complete, your child will practice using discussed coping skills in his/her classroom with prompts and support. After using skills in the classroom, your child will be asked to rate how useful the skills were in lowering stress, worries or frustrations. Classroom support will be provided and monitored for 3 to 5 weeks.
4) At the end of the study, your child will complete assessments for about 20 minutes to report how successful the skills were in decreasing/managing his/her stress, worries or frustrations.

What are the risks for my child?
Participation in this research study may involve some added risks or discomforts. Because we are talking about difficult social situations your child may experience slight psychological discomfort from completing the surveys about himself/herself and his/her behavior. Your child can skip any questions that he or she chooses not to answer. We also selected important skills to teach, but your child will need to be working with us for 2 to 3 hours to learn skills over the course of the study. We will work closely with teachers to determine the best time to work with children so that missed school work will be
minimized. Your child will volunteer to participate or can refuse to participate at any time, and will will use strategies (e.g. praise, empathy, modeling) to make students feel comfortable when choosing to participate. Finally, there is a small risk of loss of confidentiality but we will take steps to reduce this risk as described below. If any unforeseen risks are identified, we will immediately notify you of these.

What are the benefits for my child?
This program is likely to have direct benefit to students by giving him/her the opportunity to learn

ways to handle anxiety and worries that are getting in the way of academic tasks in the classroom setting. Additional benefits your child may experience include improved relationship with his/her teacher, increased coping skills, and improved ability to manage difficult academic tasks such as completing assignments, taking tests, and participating in class. Following the study, results of the intervention will be shared with teachers with your permission, so that parents and teachers may learn ways to support their child in class and at home. Finally, the information gained by this study could potentially help researchers determine the extent programs are effective for increasing academic engagement of children who may be experiencing varying levels of anxiety.

What is the Voluntary Nature of Participation and Right to Withdraw without Consequence?
Participation in this research is entirely voluntary. You and/or your child may refuse to participate or withdraw from the study at any time without consequence. If you decide to withdraw please contact Dr. Donna Gilbertson at (435) 797-2034.

What will take place to maintain confidentiality?
Research records will be kept confidential, consistent with federal and state regulations. To protect your privacy and the privacy of your child, personal, identifiable information will not be included on any study documents. A number code will be used to replace your name and the name of your child on all documents. The code will be kept separate from the data collected throughout the study and it will be destroyed one year after the study is completed. Only the principal investigator and student researcher will have access to the coded data. To protect your confidentiality, the data will be kept in a locked file cabinet or on a password protected computer in a locked room to maintain confidentiality. A report will be prepared at the end of this study with no individual results reported in the summary. Audio-tapes will be destroyed no later than three months after this data has been collected.

How may I ask questions?
If you have other questions or research-related problems, you may reach Donna Gilbertson at 435-797-2034 or donna.gilbertson@usu.edu. You may also contact Lychelle Leatham 801-402-3150 ext. 23162 or lleatham@dsdmail.net. The Principal of Burton Elementary, Denece Johnson 801-402-3150 can also be contacted for more information.

IRB Approval Statement: The Institutional Review Board for the protection of human participants at USU has approved this research study. If you have any pertinent questions or concerns about your rights or a research-related injury, you may contact the IRB Administrator at (435) 797-0567 or email irb@usu.edu. If you have a concern or complaint about the research and you would like to contact someone other than the research team, you may contact the IRB Administrator to obtain information or to offer input.

Copy of consent: You have been given two copies of this Informed Consent. Please sign both copies and keep one copy for your files to keep contact information.

Investigator Statement: "I certify that the research study has been explained to the individual, by me or my research staff, and that the individual understands the nature and purpose, the possible risks and benefits associated with taking part in this research study. Any questions that have been raised have been answered."

Signatures of Researchers

_____   _____
Donna M. Gilbertson, Ph.D.   Lychelle Leatham M.S.
Principal Investigator   Graduate Researcher
(435) 797-2034   (801) 402-3150 ext. 23162

Signature of Parent / Guardian: Please initial one statement below and sign if you agree to participate along with your child.

_____ NO, I do NOT want to participate in this study and I do not want my child to participate

_____YES, I am willing to have my child participate in this study.

Signature of Parent/Guardian_____Date_____

Printed Name of Parent / Guardian_____

Printed Name of Child_____

Child/Youth Assent: I understand that my parent(s)/guardian is/are aware of this research study and that permission has been given for me to participate. I understand that it is up to me to participate even if my parents say yes. If I do not want to be in this study, I do not have to and no one will be upset if I don't want to participate or if I change my mind later and want to stop. I can ask any questions that I have about this study now or later. By signing below, I agree to participate.

_____   _____
Name   Date

Appendix J

Child Demographic Form

Child Demographic Form

Child Information

1) Child's age: _____   Birth date (month/date/year): _____

2) Child's grade level: _____

3) Child's gender: [ ] male [ ] female

4) Child's race/ethnicity (Check all that apply):
    [ ] Asian
    [ ] Pacific Islander
    [ ] African American
    [ ] Caucasian
    [ ] Hispanic/Latino
    [ ] Native American
    [ ] Other _____

4) Has your child ever been diagnosed with any psychological and/or behavioral disorders?

    [ ] No [ ] Yes (Please specify which ones: _____)

5) Is your child currently taking any medication? [ ] yes [ ] no

6) Is your child receiving counseling, therapy, or behavioral services? [ ] yes [ ] no

7) Annual Household Income
    [ ] Less than $15,000
    [ ] $15,000 – 30,000
    [ ] $30,000 – 45,000
    [ ] $45,000 – 60,000
    [ ] $60,000 – 75,000
    [ ] $75,000 – 90,000
    [ ] More than $90,000

Appendix K

Academic Support Treatment Scripted Instructions

Academic Support Treatment Scripted Instructions

The student (task)_____

on (days/ times)_____

The   student will try to get a total of _____ points earned for each teacher rating above _____% to earn (reward)_____ .

	TEACHER	STUDENT
1	Ask student to use their planning chart before task .	Take out your plan when asked.
2	Ask the student to think about what he/she will to use on their plan.	Decide on what to use in plan
3	Notice when the student raises their hand quietly for help. -Praise the student for using the plan if some work is completed. Check work and help as needed. -OR if no work is completed, prompt to try some steps in the plan . Help as needed.	Raise your hand after you tried your best using your plan and need more help.
4	After worksheet time, tell the student to mark what he or she used and to rate how well it worked on the tracking sheet.	Mark what you used and how it worked on your chart.
5	Rate student behaviors. -For high scores, ask the student what worked and to have them write a positive statement about their own effort. May give a take home award card. -For low scores, praise what was accomplished, prompt the child to use a "I can" statement and select a plan to use next time.	Give yourself a "great job" reward if you used the plan or try the plan next time.
6	Give reward if earned	Select reward when earned.

Teacher tips:
• Provide clear expectations
• Give appropriate and reasonable information about the situation
• Discuss problem-solving options with child
• Discuss choices and consequences
• Model, coach if needed

• Praise successful steps towards completing task to help student recognize small achievements
• Tasks will be selected in a gradual way.
• Allow the child to learn how to cope when experiencing some anxiety. Practicing the map over and over will help reduce anxiety.
• Don't let the student stop too quickly otherwise will think he/ she cannot do it.

Monday	Tuesday	Wednesday	Thursday	Friday
❖ Calm breathing ❖ Helpful thinking, "I can do" statements ❖ Circle at least one thing to try first ❖ Ask teacher for help after trying ❖ Be proud of yourself	❖ Calm breathing ❖ Helpful thinking, "I can do" statements ❖ Circle at least one thing to try first ❖ Ask teacher for help after trying ❖ Be proud of yourself	❖ Calm breathing ❖ Helpful thinking, "I can do" statements ❖ Circle at least one thing to try first ❖ Ask teacher for help after trying ❖ Be proud of yourself	❖ Calm breathing ❖ Helpful thinking, "I can do" statements ❖ Circle at least one thing to try first ❖ Ask teacher for help after trying ❖ Be proud of yourself	❖ Calm breathing ❖ Helpful thinking, "I can do" statements ❖ Circle at least one thing to try first ❖ Ask teacher for help after trying ❖ Be proud of yourself
8- Flipping Out 7- Terrified 6- Afraid 5- Nervous 4- Upset 3- Unsure 2- Bothered 1- Okay 0- Relaxed	8- Flipping Out 7- Terrified 6- Afraid 5- Nervous 4- Upset 3- Unsure 2- Bothered 1- Okay 0- Relaxed	8- Flipping Out 7- Terrified 6- Afraid 5- Nervous 4- Upset 3- Unsure 2- Bothered 1- Okay 0- Relaxed	8- Flipping Out 7- Terrified 6- Afraid 5- Nervous 4- Upset 3- Unsure 2- Bothered 1- Okay 0- Relaxed	8- Flipping Out 7- Terrified 6- Afraid 5- Nervous 4- Upset 3- Unsure 2- Bothered 1- Okay 0- Relaxed
Teacher Rating Academic Engagement: Student Distress: Goal: _____ Goal Met: **Yes/No**	**Teacher Rating** Academic Engagement: Student Distress: Goal: _____ Goal Met: **Yes/No**	**Teacher Rating** Academic Engagement: Student Distress: Goal: _____ Goal Met: **Yes/No**	**Teacher Rating** Academic Engagement: Student Distress: Goal: _____ Goal Met: **Yes/No**	**Teacher Rating** Academic Engagement: Student Distress: Goal: _____ Goal Met: **Yes/No**

Appendix L

Things I would Like to Learn

Appendix 12
THINGS I WOULD LIKE TO EARN

_____ Puzzle Time

_____ Art Time

_____ Coloring

_____ Computer Time

_____ Clean in classroom

_____ Run an Errand

_____ Help another student

_____ Play game (tic-tac-toe, hangman)

_____ Sit and work with a friend

_____ Grade papers

_____ Share a story with a teacher or the class

_____ Pick up papers for teacher

_____ Help teacher organize materials for the class

_____ Hand out materials to students during class

_____ Be time keeper

_____ Pick your group

_____ Earn free activity time

_____ Pick your place in line

_____ Phone parent to say hello

_____ Two-minute nap

_____ Pick a work buddy

_____ Helping in the library

_____ Helping the janitor

_____ Sitting next to the teacher at lunch

_____ Have lunch with the principal

_____ Sitting near teacher's desk for a work assignment

_____ Write in journal

_____ Pick where you sit during a work

_____ Post good work in class

_____ Teacher will give a great job phone call to parents

_____ Wear a Good job sticker

_____ Be a team captain or leader

_____ Show work to another class or principal

_____ Lead class in a class activity

_____ Sharpen class pencil