INVESTIGATING USE OF THE BEHAVIOR EDUCATION PROGRAM FOR STUDENTS WITH INTERNALIZING BEHAVIORAL CONCERNS

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INVESTIGATING USE OF THE BEHAVIOR EDUCATION PROGRAM FOR STUDENTS WITH INTERNALIZING BEHAVIORAL CONCERNS

Presented by Barbara S. Mitchell

A candidate for the degree of

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CHAPTER I

LITERATURE REVIEW

Statement of the Problem

Data from the World Health Organization indicate mental health disorders affect approximately 450 million people worldwide (Funk, Drew, Freeman, & Faydi, 2010; Hosman, Jane-Liopis, & Saxena, 2005). Roughly one person out of every four will develop a mental or behavioral health challenge within their lifetime (Hosman, Jane-Liopis, & Saxena, 2005). Individuals who experience these conditions are at greater risk for a number of social and economic challenges that include reduced access to health care, social service, emergency relief, educational opportunities, restricted employment and income, stigma and potential discrimination, violence or abuse and increased risk for further disability and premature death (Funk et al., 2010).

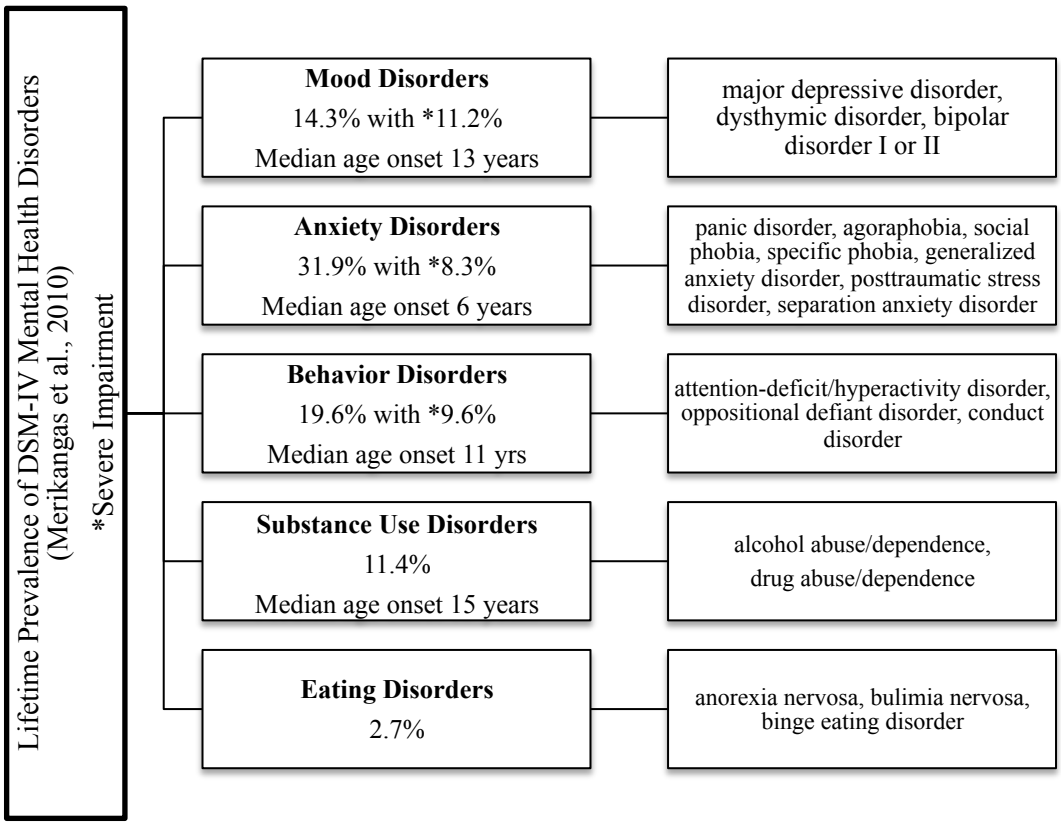
The long-term financial obligation associated with mental illness is profound. Inability of affected individuals to find and maintain long-term employment along with payment for services and treatment requires substantial support from public funding sources. The National Institute of Mental Health (NIMH) estimated total annual expense associated with serious mental illness to be more than $300 billion (Kessler et al., 2008). By the year 2020 internalizing conditions such as depression and anxiety are predicted to be second only to heart disease in related health care costs (Hosman et al., 2005). Considering the psychological, social, and economic challenges for society, and especially for individuals who experience these conditions, mental health disorders are a significant public health concern (Herman, 2009; Hosman et al., 2005).

Large numbers of children and youth also are affected by mental health disorders. Regional surveys conducted in the United States have indicated approximately one in every three or four children experience a mental health disorder and one in ten is identified with a serious emotional disturbance (e.g., Brauner & Stephens, 2006; Roberts, Roberts, & Xing, 2007). However, more recent results from the National Comorbidity Survey Replication – Adolescent Supplement (NCS-A) provided the first prevalence, comorbidity, and age of onset estimates for adolescent mental health disorders (Merikangas et al., 2010). Data was collected from a nationally representative sample of more than 10,000 youth ages 13 to 18 years and their parents using a modified version of the World Health Organization (WHO) Composite International Diagnostic Interview (CIDI) to identify mental disorder diagnoses. Assessment included five broad domains of mental disorder (Mood Disorders, Anxiety Disorders, Behavioral Disorders, Substance Use Disorders, and Eating Disorders) and adhered to criteria as indicated in the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV; American Psychiatric Association, 2000).

Results showed anxiety (31.9%), behavioral (19.1%) and mood disorders (14.3%) as the most frequently occurring conditions and indicated roughly 40% of respondents met criteria for more than one disorder. In addition, median age of onset occurred differentially, according to disorder, with anxiety disorders emerging earliest (6 years of age), followed by behavioral disorders (11 years), mood disorders (13 years), and substance use disorders (1 years). Figure 1 provides a summary of these outcomes and indicates specific DSM-IV disorders within each of the five assessed domains.

Figure 1

Lifetime Prevalence of DSM-IV Mental Health Disorders Among Adolescents Aged 13-18 Years (Merikangas et al., 2010)



Anxiety, behavioral and mood disorders, which were cited as the most commonly occurring mental disorders among adolescents, are distinct diagnoses that are identified using specific criteria provided in the DSM-IV however, among preschool and young school age children symptoms that emerge prior to diagnosis of disorder are often described using the broader terms of internalizing (emotional) and externalizing (behavioral) problems (American Psychiatric Association, 2000; Bayer et al., 2011). Externalizing refers to problems that are directed outwardly, toward the social environment while internalizing is associated with problems that are directed inwardly, away from the social environment (Walker, Ramsey, & Gresham, 2004). Not surprisingly, given the prevalence and age of onset for adolescent disorders, evidence also has indicated internalizing and externalizing problems are commonly experienced during early childhood. In fact, as many as 15% of children ages 18 months to five years and approximately one in seven school age children are affected (Bayer et al., 2011).

Externalizing problems frequently include aggression, disruptive behaviors, hyperactivity, conduct problems and/or impulsivity (Walker, Ramsey, & Gresham, 2004). Alternately, internalizing problems refers to emotional distress and encompasses a range of symptoms such as being shy or withdrawn, anxious, worried, overly fearful, sad, or having frequent somatic complaints (Walker et al., 2004). Internalizing problems present a particular challenge because the individual may not appear to be troubled as the behaviors are rarely disruptive enough to be noticed by others (Walker et al., 2004). However, left untreated, internalizing problems have a potentially negative impact on healthy development and increase the likelihood for poor social and academic outcomes (Duchesne, Vitaro, Larose, & Tremblay, 2008; Ialongo, Edelson, & Kellam, 2001).

Specifically, young children who experience internalizing problems may be less likely to engage with peers and/or teachers and in fact may be perceived as undesirable by others because of their lack of engagement (Stormont, Reinke, Herman, & Lembke, 2012). Fewer interactions may result in problems with attention, limited concentration, and learning difficulties in school, which in turn can affect later achievement (e.g., Breslau et al., 2009; Duchesne et al., 2008; Herman et al., 2008). Unfortunately, by the time the majority of internalizing problems are detected they can already be severe and less responsive to treatment (Bayer et al., 2011).

Effective intervention can reduce risk and intensity of impact but many children and youth who experience mild to severe problems, either internalizing or externalizing, are often inadequately supported, delayed in accessing services, or receive no treatment at all (The National Research Council and Institute of Medicine [NRC & IOM], 2009). For the few children who do receive mental health supports, schools are typically the primary provider (Rones & Hoagwood, 2000). In fact, schools play an essential role in the lives of children and offer a natural context for access to and delivery of preventive and early intervention mental health services (Herman, Merrell, Reinke, & Tucker, 2004). Many studies have examined the types and impact of school-based mental health supports, however the majority has focused on reduction of externalizing problems (Herman et al., 2009; Hoagwood et al., 2007). Currently less is known about how schools contribute to decreasing risk and promoting protective factors among children with internalizing problems (Herman et al., 2004; Herman et al., 2009; Reinke, Herman, & Tucker, 2006). Further, few studies have examined internalizing problems and measured impact of interventions on both emotional and academic functioning (Hoagwood et al., 2007). A

better understanding of school-based interventions that can effectively support students with internalizing problems is needed (Herman et al., 2004).

The remainder of this chapter provides context for the investigation that was conducted and includes a) an overview of foundational principles for supporting students with internalizing problems, b) a review of evidence-based interventions for anxiety and mood disorders, c) a summary of mental health work in school settings, d) a description of commonly implemented school-based, educational interventions and supports, e) consideration of the Behavior Education Program (BEP), an intervention used in school settings specifically to address challenging behavior, and f) the study purpose and research questions.

Foundational Principles for Supporting Children with Internalizing Problems

Several foundational principles associated with internalizing problems provide a framework for understanding how to support children who experience these challenges. First, anxiety and mood disorders that emerge from internalizing problems can be prevented. Early intervention across home and school settings can reduce the impact of symptoms and lessen the likelihood of development to chronic disorder (NRC & IOM, 2009).

Second, from a behavior analytic perspective, internalizing problems are functional, which means they serve a purpose that allows a child to get his or her needs met. Many children with internalizing problems may use certain behaviors, which permit them to avoid or escape undesirable activities, tasks and/or interactions. However, according to principles of Applied Behavior Analysis (ABA), antecedent conditions that trigger certain behaviors and consequences that maintain those behaviors can be

systematically altered and arranged to interrupt maladaptive behavioral patterns (Cooper, Heron, & Heward, 2007).

Third, internalizing problems can be viewed as the sum of interactions related to a child's feelings (i.e., physical indicators), thoughts, and behaviors that lead to a negative feedback cycle (Stormont et al., 2012). For example, children with internalizing problems often display low positive affect and high negative affect, express feelings of hopelessness, report physical symptoms that have no known medical cause, and/or demonstrate high levels of apprehension, tension, and helplessness (Stormont et al., 2012). Intertwined with these feelings negative cognitive patterns may develop. For instance, children who are overly anxious may be more sensitive to physical sensations, have an exaggerated or distorted interpretation of negative consequences, and engage in catastrophic thinking. Similarly, children with depressive symptoms have negative perceptions of their own competence and self-control that is further shaped by critical feedback from their environment (i.e., parents, siblings, teachers, and/or peers) (Cole, Jacquez, & Maschman, 2001). The interactions between internalizing feelings and negative thoughts are then associated with maladaptive behaviors such as avoidance, limited social contact, reassurance seeking, low activity levels, diminished participation in pleasurable events, and impaired social and academic skills (Stormont et al., 2012). In turn maladaptive behaviors further the development and maintenance of the initial internalizing feelings and negative thoughts, thus producing a damaging cycle.

Fourth, cognitive behavioral treatments, which are among the most commonly provided interventions for adolescents and adults experiencing anxiety or mood disorders, may be less successful in the early years of child development, when the

opportunity for intervention impact is optimal (Stormont et al., 2012). More research is needed to determine the impact of cognitive behavioral interventions among young children. As an alternative to cognitive based treatments, young children may benefit most from direct instruction, modeling, practice, and feedback to teach and maintain effective feelings, thought patterns, and coping behaviors.

Fifth, as indicated in the prior point, explicit instruction to teach adaptive thought patterns and coping behaviors along with repeated practice opportunities that are provided in natural contexts and followed by specific feedback continue to be the most effective strategies for young children who experience internalizing problems (Stormont et al., 2012).

Finally, some of the same interventions and environmental supports that reduce externalizing behaviors may also be beneficial for remediating internalizing problems. This may be, in part, because risk factors that are known to worsen externalizing problems are often the same or similar factors that impact internalizing problems. In fact, clearly defined behavioral expectations, explicit instruction for appropriate behavior, and high rates of positive, specific feedback are commonly recommended practices for all students who demonstrate behavioral concerns, irrespective of whether the problems are externalizing or internalizing (Lane, Wehby, Robertson, & Rogers, 2007; Stormont et al., 2012).

Evidence-Based Interventions for Mental Health Disorders

In 1995 the American Psychological Association's (APA) Division 12 Task Force on Promotion and Dissemination of Psychological Procedures provided a series of reports that specified criteria for psychological treatments to be regarded as *well-established,*

probably efficacious, possibly efficacious, or *experimental*. A rating of *well-established* required a minimum of two group-design studies, conducted by at least two independent research teams in independent settings, that demonstrated a treatment as (a) more effective than placebo or another or (b) equivalent to an already established treatment. In addition, criteria for *well-established* interventions also included use of a treatment manual, clear inclusion and exclusion criteria for study participants, reliable and valid assessments, and appropriate data analyses (Task Force on Promotion and Dissemination of Psychological Procedures, 1995).

Soon after the original Task Force reports a second group, Task Force on Effective Psychosocial Interventions: A Lifespan Perspective, was organized to identify empirically supported treatments specific to children and youth. Later, a special issue of *The Journal for Child Clinical Psychology* (1998) published a series of articles derived from work of the Task Force to highlight research-based treatments across the categories of autism, depression, phobic and anxiety disorders, disruptive behavior disorders, and ADHD in children and adolescents (Lonigan, Elbert, & Johnson, 1998). Considering that anxiety and mood disorders currently are among the most frequent conditions adolescents experience, and onset can be detected at a young age, an understanding of well-established treatments for these disorders is needed (Merikangas et al., 2010).

For children with phobic and anxiety disorders participant modeling and contingency management strategies were deemed as *well established* while desensitization and cognitive behavioral therapies were designated as *probably efficacious* (Ollendick & King, 1998). Among children with depression disorders no treatments were identified as *well established* but two studies met criteria for *probably*

efficacious. In the first example a treatment of self-control and problem solving skills was compared against a wait list control group and in the second example children participated in a cognitive behavioral therapy group (CBT; Stark, Reynolds, & Kaslow, 1987; Stark, Rouse, & Livingston, 1991). Outcomes were compared against those of children who received traditional counseling services (Stark, Rouse, & Livingston, 1991).

In 2008 *The Journal for Child Clinical Psychology,* renamed *The Journal for Child and Adolescent Clinical Psychology*, published a 10-year follow up issue to highlight work completed since the initial Task Force reports. Studies were only included in the 2008 follow up reviews if they met stringent criteria for methodological rigor (i.e., Nathan & Gorman, 2002; Type 1 and 2). Requirements for Type 1 studies consisted of random assignment to condition, blinded assessments, clear inclusion and exclusion criteria, adequate sample size for statistical power, and clear statistical methods. Type 2 investigations applied the same criteria, but allowed for one aspect of Type 1 criteria to be missing. In the 2008 special issue Silverman and colleagues reviewed 32 studies, conducted after the original APA Task Force reports, for phobic and anxiety disorders in children and youth. Similarly, a second article examined an additional 28 depression trials, 10 that were conducted with children and 18 that focused on adolescents (David-Ferndon & Kaslow, 2008).

For children with phobic and anxiety disorders none of the additional studies identified *well-established* treatments (Silverman, et al., 2008). However, among the studies for children with depression CBT child groups and CBT child groups with family components were identified as "*well established*" treatments (Asarnow, Scott, & Mintz, 2002; Gillham, Reivich, Jaycox, & Seligman, 1995; Jaycox, Reivich, Gillham, &

Seligman, 1994; Kahn, Kehle, Jenson, & Clark, 1990; Nelson, Barnard, & Cain, 2003; Roberts, Kane, Thomson, Bishop, & Hart, 2003; Stark, Reynolds, & Kaslow, 1987; Stark, Rouse, & Livingston, 1991; Weisz, Thurber, Sweeney, Proffitt, & LeGagnoux, 1997; Yu & Seligman, 2002).

Taken together, the 1998 and 2008 reviews of empirically supported treatments identified a) participant modeling and b) contingency management (i.e., reinforced practice) as *well-established* interventions for children with phobic and anxiety disorders (Ollendick & King, 1998). In addition, cognitive behavioral treatments (i.e., child groups; child groups with parent/family components) were designated as a *well-established* treatment for children with depressive disorders (David-Ferdon & Kaslow, 2008). Following is a brief description of each *well-established* treatment and an overview of key studies that contributed to the designation.

Modeling. Modeling provides children with an opportunity to observe non-fearful (i.e., adaptive) behavior during a fear/anxiety-producing situation without adverse consequences occurring to the model (Ollendick & King, 1998). The basis for treatment is that fearful and anxious behaviors demonstrated during particular situations can be extinguished and replaced with appropriate behavior. Learning occurs through observations of successful interactions between the model and environment. Modeling can occur through filmed or live presentations (Bandura et al., 1967; Mann & Rosenthal, 1969). In addition, one adapted variation is participant modeling in which children can be assisted and/or prompted to demonstrate adaptive behaviors while approaching a fearful situation. Ollendick and King (1998) identified five separate studies using participant modeling as a treatment for phobic and anxious behaviors in children (Bandura,

Blanchard, & Ritter, 1969, Blanchard, 1970; Lewis, 1974; Murphy & Bootzin, 1973; Ritter, 1968)

Contingency management. While modeling is based on the premise that fear must be reduced or eliminated before adaptive approach behaviors can occur, contingency management, in contrast, focuses on operant conditioning (voluntary behaviors) and relies on reinforcement or punishment to increase or strengthen a particular behavior. The belief is fear/anxiety do not necessarily need to be reduced prior to demonstration of an approach behavior, instead shaping, positive reinforcement, and extinction are sufficient for teaching appropriate/adaptive behaviors (Ollendick & King, 1998). Early studies of contingency management demonstrated effects with behaviors such as fear of bus riding, dog petting, tolerating dark settings, and participation in water activities (Obler & Terwilliger, 1970; Leitenberg & Callahan, 1973; Sheslow, Bondy, & Nelson, 1983; Menzies & Clarke, 1993).

Cognitive behavioral procedures. Cognitive behavioral procedures typically incorporate a variety of strategies such as teaching children to use positive self-statements, demonstrate relaxation or self-control techniques, develop problem solving strategies, and/or evaluate their own performance. An underlying principle for a cognitive behavioral approach is that maladaptive thought patterns lead to maladaptive behavior (i.e., anxiety, fear, and avoidance of certain situations) and changes in thoughts will result with change in behavior. Cognitive behavioral treatments often include teaching children to a) recognize anxious feelings and physical symptoms, b) clarify thoughts during an anxiety or fear provoking situation, c) develop a plan for responding

(positive self-talk and coping actions), d) evaluate outcomes, and e) self-reward (Kendall, 1997).

In the 1998 review of treatments for children with phobic and anxiety disorders and for childhood depression neither Ollendick and King (1998) nor Kaslow and Thompson (1998) determined cognitive behavioral procedures to be *well-established* treatments for children. Ollendick and King noted several investigations that included cognitive behavioral techniques and that use of these strategies was more effective than no treatment or a wait list control condition. However, because there were no studies showing cognitive behavioral interventions to be superior over another treatment the existing investigations were indicated as *probably efficacious* rather than *well-established* (Ollendick & King). Similarly for children with depressive symptoms Kaslow & Thompson reported cognitive behavioral interventions reduced depressive symptoms in non-clinical samples of children but did not locate studies demonstrating these techniques as superior to another treatment and accordingly labeled them as *probably efficacious*.

Later, in the 2008 follow up issue, Silverman and colleagues noted cognitive behavior treatments, in some formats (e.g., individual, group, and group with parent components), met criteria for *probably efficacious* for children with phobic and anxiety disorders. Although several studies documented superiority of cognitive behavioral treatments over a wait-list control condition, there were not two studies conducted by independent research teams showing cognitive-based interventions as significantly superior to an existing treatment, which prevented designation as *well-established* for phobias and anxiety (Silverman et al., 2008). However, for depressed children, cognitive behavioral treatment, when provided in child-groups or child-groups with parent

components, was found to be a *well-established* intervention for reducing depressive symptoms (David-Ferndon & Kaslow, 2008).

Roberts and colleagues (2003) showed outcomes of a 12-session, group-based, cognitive behavioral treatment with 90 seventh-grade students in a rural school setting. The intervention program was a replication of work completed in a previous investigation from a separate research team that used the Penn Prevention Program (PPP) (Jaycox, Reivich, Gillham, & Seligman, 1994). Intervention sessions in both investigations included instruction in topics such as thoughts and feelings, dealing with family conflict, assertion, negotiation, coping strategies, decision-making, social skills, and problem solving (Jaycox et al., 1994; Roberts, Kane, Thomson, Bishop, & Hart, 2003). Results showed statistically significant differences between the intervention and control groups on reductions in anxiety, internalizing problems and externalizing problems. In addition analysis of data from a sub group of children, that showed low levels of depressive symptoms during pre-intervention assessment, indicated statistically significant reductions, compared to children who did not receive treatment, in depression, anxiety and internalizing problems at post-intervention (Roberts et al., 2003). In this example the intervention was delivered in a school setting with school personnel who were trained to deliver the treatment sessions. One implication was the potentially preventive aspect of the program for reducing depressive symptoms for children experiencing lower level symptoms (Roberts et al., 2003).

In another example of group-based cognitive behavioral treatment, Yu and Seligman (2002) developed and investigated a culturally modified version of PPP for male Chinese students aged 8 to 15 years. Outcomes showed the cognitive-behavioral

approach demonstrated statistically significant differences between treatment and control groups on measures of self-reported depressive symptoms.

While a few *well-established* treatments have been identified for children experiencing phobic and anxiety disorders or depression disorders (i.e., participant modeling, contingency management, and group based cognitive behavioral treatments) a number of concerns persist. First, the quantity of mental health studies conducted with young children experiencing internalizing problems is still small (Bayer et al., 2009). Only eight additional high-quality studies for childhood depression treatments were located in the 10-year follow up after the original charge to the field to conduct high quality studies with school-aged children (David-Ferdon & Kaslow, 2008). Further, although 32 additional studies of phobic and anxiety treatments were completed, no new interventions were identified as *well established* (Silverman et al., 2008).

Second, the intervention approaches that were identified frequently included a psycho-educational element such as instruction for coping strategies, exposure strategies, or development of problem solving skills. Although these interventions could be provided in school settings, where children are most likely to receive intervention, the extent to which typical school personnel, with whom children spend the majority of their day, can implement the well-established techniques is less known.

Mental Health in School Settings

For the majority of children in need of mental health supports, schools are often the only source of service they will ever access (Rones & Hoagwood, 2000). Although schools are often the primary provider of mental health services for children, it is not known whether the programs being used are evidence-based. In a review of high-quality

studies of mental health programs provided in school settings, Rones and Hoagwood (2000) found a majority of the available research was associated with conduct problems followed by programs designed to reduce substance use. Although anxiety and mood disorders are among the most common disorders for children and adolescents, there were no documented school-based investigations addressing anxiety. Further, few studies targeting depression were found and among those located only three were noted as effective for reducing symptoms (Rones & Hoagwood, 2000). In addition, several gaps in research efforts were highlighted which included the need for more studies of anxiety and depression interventions for elementary level students; further investigation of variables related to the implementation of mental health treatments in school settings; and evaluation of the impact of school-based mental health services on educational outcomes such as achievement, attendance, and disciplinary events (Rones & Hoagwood, 2000).

In a later review, Hoagwood and colleagues (2007) examined school-based interventions that targeted both academic and mental health functioning. Only 24 studies published from 1990 through 2006 investigated mental health and educational outcomes together and further just 15 of those found statistically significant effects on both variables (Hoagwood et al., 2007). Within the 15 studies that showed dual positive effects (i.e., mental health and educational), 11 were focused on kindergarten or elementary age children (Hoagwood et al., 2007). Among the 11 studies of programs implemented for young children, a majority focused on externalizing attributes of behavior such as disruption and antisocial behavior (First Step to Success, Walker, Kavanagh, Stiller, Golly, Severson, & Feil, 1998; Improving Social Awareness – Social Problem Solving Project, Elias, Gara, Schuyler, Branden-Muller, & Sayette, 1991),

delinquency and substance use (Montreal Longitudinal Study, Tremblay, Pagani-Kurtz, Masse, Vitaro, & Pihl, 1995; Seattle Social Development Project, Hawkins, Catalano, & Kosterman, 1999), or student violence, possession of weapons, felonies, and disciplinary events (Positive Action Program, Flay, Allred, & Ordway, 2001). Similar to past research within clinical settings the programs that were successful in changing both mental health and educational outcomes for young children were viewed as highly intensive, involving multiple levels and contexts over an extended period of time (Hoagwood et al., 2007). Finally, even though positive effects were documented, overall, the outcomes were moderate when compared with the intensity and effort of implementation (Hoagwood et al., 2007).

Common Educational Interventions and Supports

Although more mental health research conducted in both clinical and school settings is needed, outcomes when interventions are implemented early and with integrity are encouraging. In addition, many of the essential features noted within effective mental health interventions can be implemented by educational professionals, in partnership with school mental health professionals, with the appropriate training and supports (e.g., teaching coping strategies, opportunities to practice skills with feedback). However, schools continue to face the challenge of large numbers of at-risk students coupled with limited access to mental health supports (Hoagwood et al., 2007). Therefore it is imperative that evidence-based interventions, which can be delivered and sustained within school settings with typical school resources, are explored.

School-based strategies that are well- suited to serve as early protective factors for children with or at-risk for internalizing problems include a) use of daily behavior report

cards, b) self-monitoring techniques, c) instruction for effective social skills, d) exposure to successful social interactions, e) promoting use of skills across settings, and f) use of data to monitor progress (Stormont et al., 2012). In addition, important program features known to enhance effects of mental health service in schools include: a) consistent program implementation, b) inclusion of parents, teachers, and/or peers, c) use of multiple instructional approaches (i.e., presentation of information with skills training), d) integration of program content within general education curriculum, and e) developmentally appropriate program components (Rones & Hoagwood, 2000).

While the list of educational strategies and recommended systems to implement best practices are encouraging, several limitations remain. First, to date, the majority of school-based prevention and intervention programs have targeted adolescents. A focus on younger children, before problems may become severe and chronic, is needed.

Second, existing interventions such as CBT, exposure therapy, social skills training, problem solving strategies, and medications have provided treatment from a "within child" perspective and have not sufficiently examined the potential impact of environmental variables (i.e., outside the child), especially school environments, for remediating challenges.

Third, mental health professionals with specialized training have implemented the recommended treatments primarily in clinical rather than school settings. It is unknown whether typical school mental health professionals such as school counselors can implement strategies without specialized training and within complex school settings.

Finally, overall the effects of the majority of recommended strategies have been statistically significant, but have made only small impacts on children's symptoms and

behavior. In addition to continued research within the mental health literature on strategies appropriate for young children, educators are in need of school-based strategies that incorporate the current recommended intervention components to address the on-going challenges they see on a daily basis.

The next section describes one intervention strategy, the Behavior Education Program (BEP), commonly referred to as "check-in/check-out, which has been documented as successful when used with students who display externalizing behavioral concerns (Crone, Hawken, & Horner, 2010). Although there are no published studies of effects for students with internalizing problems the BEP intervention incorporates many of the above recommended strategies and program features that are viewed as beneficial for remediating internalizing concerns.

Behavior Education Program

The Behavior Education Program (BEP), which also is commonly referred to as "check in/check out" (CICO), is a proactive, positive, research-supported self-management intervention that combines a number of individually effective components to be used with students identified at-risk for behavioral concerns (Crone et al., 2010). The components of the BEP are grounded in Applied Behavior Analysis and Positive Behavior Supports. Core principles of the intervention include a) clearly defined behavioral expectations and rules, b) instruction on behavioral expectations, c) high rates of feedback and reinforcement for demonstration of desired behavior, and d) use of data to monitor outcomes (Crone et al., 2010). Data collection and monitoring components within the intervention are based on research on the use of Daily Behavior Report Cards (DBRC) and Direct Behavior Rating (DBR), which have been demonstrated as valid,

reliable, and feasible tools for formative assessment of social behavior (Chafouleas, Christ, Riley-Tillman, Briesch, & Chanese, 2007; Chafouleas, Riley-Tillman, Sassu, LafFrance, & Patwa, 2007; Davies & McLaughlin, 1989; Dougherty & Dougherty, 1977). Beyond daily formative assessment data, the BEP is designed to be faded to a self-management program, providing opportunities for students to monitor and regulate their own behavior, which are important processes associated with classroom adjustment and success.

The basic intervention. The basic BEP daily cycle includes the following five components (Crone et al., 2010; Hawken & Horner, 2003; Simonsen, Meyers, & Briere, 2011):

1. Students "check-in" with an intervention facilitator each morning as they arrive to school. The facilitator provides students with a Daily Progress Report (DPR) and offers pre-corrects for meeting daily behavioral goals.
2. Using the DPR, students rate their own behavior and then receive specific feedback about their behavioral performance from their classroom teacher at the end of each class period or during natural transitions throughout the school day. More specifically, the classroom teacher gives positive, specific praise for appropriate behavior (e.g., "You did a great job keeping your hands and feet to yourself today. That is a great way to be safe in the classroom".) and then rates student demonstration of expectations using a predetermined point system.
3. At the end of each school day, students return to the intervention facilitator for "check-out." During this time, points earned on the DPR are totaled and entered in a data- collection system. Students receive additional verbal praise, tangible

rewards, and/or time with a preferred activity or peer for meeting daily or weekly goals.

4. School staff members are encouraged to allow the child to take the DPR home and receive additional feedback from a parent or guardian. The student is then expected to return the signed DPR to school the following day. The BEP facilitator provides verbal praise if the student returns the DPR, but no punitive consequence is assigned if the student does not return the signed report.
5. The last component is data collection and progress monitoring. Student percentage of points earned from the DPR is entered into a data spreadsheet daily. The school student-support team, including the BEP facilitator, periodically reviews student data to make decisions on continuing, modifying, or fading the intervention.

Currently there are 16 peer-reviewed publications of the BEP intervention (see Table 1). Publication dates range from the earliest in 2002 to the most recent in 2012 and employed the following research methodologies (Campbell & Stanley, 1963): (a) three publications provided a descriptive case study, (b) eight studies used single-subject designs, (c) four investigations used quasi-experimental designs, and (d) one used a group experimental design. A total of 189 students have participated in peer-reviewed trials of the BEP. The majority of studies (i.e., 10) took place in an elementary setting described as grades K-5 or K-6, while five were completed in middle school settings (i.e., grades 5-8 or 6-8), and one occurred with junior high and high school level students in a residential facility.

Across the reviewed studies, several important outcomes are noted (see Table 1). First, use of the BEP was associated with reductions in problem behavior or increases in prosocial behavior (Filter et al., 2007; Hawken, 2006; Hawken & Horner, 2003; Hawken et al., 2007; McCurdy et al., 2007; Mong et al., 2011; Simonsen, 2011; Todd et al., 2008). Second, the BEP can be delivered with fidelity in school settings using typical personnel. Third, the BEP intervention has high social validity ratings from student, family, and teacher participants. These results support the BEP as a promising option for interrupting the trajectory of negative outcomes associated with problem behavior.

Table 1

Summary of Published BEP Research

Descriptive Studies		
Study	*Purpose*	*Results*
Hawken (2006)	Summary of BEP effects on ODR rates. N = 10	7 out of 10 students (70%) showed a decrease in the average number of ODR received after participating in the BEP.
McCurdy, Kunsch & Reibstein, (2007)	Implementation of the BEP with 8 students. N = 8	*50% showed successful outcomes; 25% showed moderately successful outcomes; 25% demonstrated unsuccessful outcomes. *Determination for levels of success not specified.
March & Horner (2002)	Part 1: Examined whether student success with the BEP was associated with function of behavior. Part 2: FBA results were used to modify the intervention for 3 students who did not demonstrate initial success. N = 24	Part 1: 9 out of 13 attention maintained students demonstrated reductions in ODR vs. 3 out of 11 escape maintained participants. Part 2: Reduced levels and variability of problem behavior. Improved level and increasing trend for academic engagement.
Single-Subject Research		
Campbell & Anderson (2011)	Examined effect of BEP on problem behavior and academic engagement. N = 4	All students demonstrated a decrease in mean level of problem behavior and increased mean levels of academic engagement across the intervention phase. Successful systematic removal of all teacher-feedback sessions and point card was demonstrated for 3 out of 4 participants.
Campbell & Anderson (2008)	Examined effects of a function-based adaptation to the basic BEP. N = 2	Larger decreases in problem behavior during the function-based modified BEP condition.
Ennis, Jolivette, Swoszowski, & Johnson (2012)	Examined effects of BEP on problem behavior of junior high/high school level students in a residential facility. N = 6	Four of the six students demonstrated decreases in percentage of intervals with problem behavior after the BEP was introduced. Decreases were more pronounced for students with peer attention maintained behavior than for students with escape motivated behaviors.

Table 1 (continued)

Single-Subject Research (continued)		
Study	*Purpose*	*Results*
Hawken & Horner (2003)	Examined effects of BEP on problem behavior and academic engagement. N = 4	All students demonstrated a decrease in mean level of problem behavior and increased mean levels of academic engagement across the intervention phase.
Hawken, MacLeod, & Rawlings (2007)	Examined effects of BEP on ODR rates. N = 12	Reductions in average total ODR per month among all four groups. 9 of the 12 students (75%) displayed individual decreases in ODR per month, which was a statistically significant reduction. 10 of the 12 participants did not require additional intervention.
Lane, Capizzi, Fisher, & Ennis (2012).	Examined effects of the BEP on percentage of Daily Progress Report (DPR) points earned. N = 4	Results indicated a change in performance that matched the reinforcement criterion of each phase for three of the four participants.
Mong, Johnson, & Mong (2011)	Examined effects of BEP on problem behavior, ODR rates and math performance. N = 4	Intervals of problem behavior and the average number of ODR per week among all participants decreased during the BEP. Digits correct per minute increased and errors per minute were reduced.
Todd, Campbell, Meyer, & Horner (2008)	Examined effects of BEP on problem behavior. N = 4	Intervals of problem behavior decreased for all students during the BEP phase. The average number of ODR per day among all participants decreased from .14 to .04 during BEP. 3 of the 4 students (75%) decreased ODR to zero.
Quasi-Experimental Research		
Fairbanks, Sugai, Guardino, & Lathrop (2007)	Part 1: Examined effects of BEP implemented by school personnel. N = 10 ---------- *Part 2: Documented change in behavior when students received BEP with additional function-based supports.	Part 1: 4 of 10 students demonstrated decreases in problem behavior. ---------- *Part 2: 4 students who were initially unresponsive demonstrated decreases in problem behavior after function-based supports were provided with BEP.

Table 1 (continued)

Quasi-Experimental Research		
Study	*Purpose*	*Results*
Filter, McKenna, Benedict, Horner, Todd & Watson (2007)	Completed a post-hoc examination of effects for a practitioner-implemented BEP intervention. N = 19	4 out of 5 features implemented with adequate to high fidelity (82%-100%). Parent feedback component was 41%. No statistically different change in *major* ODR from pre-intervention to during BEP. A statistically significant decrease in *minor* ODR during BEP. A statistically significant decrease in combined *major and minor* ODR among students for whom these results were available (12). Mean ratings of BEP effectiveness and efficiency ranged from 4.19 -5.06 (70%- 84%) using a 6-point Likert scale.
Hawken, O'Neill & MacLeod (2011)	Replicated effectiveness of BEP on reducing problem behavior and examined the relationship between function of problem behavior and effectiveness of BEP on reducing problem behavior. N = 17	5 of the 7 ((71%) students and 8 of the 10 (80%) students demonstrated reductions in ODR. Across function of problem behavior reductions in ODR existed for all (9, 100%) of the students who were peer maintained, for the 1 student (100%) who demonstrated problem behavior to have access to tangible items, 1 of the 2 (50%) students who were escape maintained, and 2 of the 5 (40%) students who had adult attention maintained problem behavior.
McIntosh, Campbell, Carter, & Dickey (2009)	Examined differential effects of BEP for groups of students with attention or escape maintained behavior. N = 34	Statistically and clinically significant effects on all measures for the obtain adult/peer attention group. No statistically significant effects for the escape academic task group.
Experimental Research		
Simonsen, Myers, & Briere (2011)	Compared the effectiveness of BEP to school's standard practice (SP). N = 27	Statistically significant changes in observed classroom behavior (off-task), but no significant differences in teacher ratings of behavior.

Impact on maladaptive behavior. Results from existing BEP studies have demonstrated reductions in problem behaviors across several different measures that included direct observation, office discipline referral incidents (ODR), and teacher ratings of maladaptive student behavior. For example, direct observation has been used to monitor reductions non-compliance, refusal to work, inappropriate language, and disruptions such as arguing with teacher, bothering peers, and/or leaving assigned area (Ennis et al., 2012; Fairbanks et al., 2007; Hawken & Horner, 2003; Mong et al., 2011; Simonsen et al., 2011; Todd et al., 2008).

In contrast other investigators have looked at reductions in discipline contacts such as the frequency or rate of office discipline referrals (ODR) documented (Fairbanks et al., 2007; Filter et al., 2007; Hawken, 2006; Hawken et al., 2007; Hawken et al., 2011; McIntosh et al., 2009; March & Horner, 2002; Mong et al., 2011; Todd et al., 2008). In addition, three separate researchers have documented data indicating participation in the BEP reduced the number of students who might have otherwise required more intensive individualized supports (Fairbanks et al., 2007; Hawken et al., 2007; March & Horner, 2002).

Finally, changes in teacher ratings of problem behavior post BEP participation also have been documented (McIntosh et al., 2009; Simonsen et al., 2011). For example McIntosh and colleagues (2009) used the *Behavior Assessment Scale for Children 2* (BASC-2, Reynolds & Kamphaus, 2004) to assess problem behaviors before and after the BEP was provided for 36 at-risk elementary students. *The Teacher Report Scale – Child Form* of the BASC-2 was administered and problem behaviors were assessed using the *Behavioral Symptoms Index* (BSI), which is a composite score that includes subscales for

hyperactivity, aggression, depression, attention problems, atypicality, and withdrawal (Reynolds & Kamphaus, 2004). Results showed differential effects of the BEP on problem behaviors according to identified function of behavior. Specifically, statistically significant reductions, with a large effect size, in problem behavior were evident among students identified with attention-maintained behavior (McIntosh et al., 2009). Simonsen and colleagues (2011) used the teacher version of the *Social Skills Rating System* (SSRS; Gresham & Elliott, 1990) to measure teacher ratings of student problem behaviors (i.e., externalizing, internalizing, and hyperactivity). Teacher ratings were completed before and after intervention implementation and then compared for two different treatment groups, the BEP versus school standard practice (SP). After intervention students in the BEP condition had slightly higher scores for the SRSS social skills subscale scale than did students who received the typical school program, but limited change occurred from pre to post treatment on the problem behavior or academic competence subscales for either the treatment or control groups. While this particular study did provide strong evidence for BEP impact on teacher perceptions of student behaviors it did offer an additional example of how teacher ratings can be incorporated as a research measure when investigating the BEP.

Impact on adaptive behaviors. Investigations also have shown changes in student adaptive behaviors and academic achievement associated with use of the BEP (Campbell & Anderson, 2011; Hawken & Horner, 2003; Lane et al., 2012; McCurdy et al., 2007; McIntosh et al., 2009; Mong et al., 2011; Simonsen et al., 2011). For example, both Hawken and Horner (2003) and Campbell and Anderson (2011) used direct observation with interval recording to document increased academic engagement.

Second, evidence of increased adaptive behavior has been demonstrated by recording percentage of daily points students earned (Lane et al., 2012; McCurdy et al., 2007; Mong et al., 2011). Third, increases in teacher ratings of prosocial behavior have been documented (McIntsosh et al., 2009; Simonsen et al., 2011). For example, McIntosh and colleagues (2009) administered the Adaptive Scale from the BASC-2, which included scores for adaptability, social skills, leadership, study skills, and functional communication, to measure teacher perceptions of student behavior (Reynolds & Kamphaus, 2004). Results showed statistically significant increases in adaptive behaviors with a large effect size for students with attention-maintained behaviors (McIntosh et al., 2009). In another example that included teacher ratings of behavior results from the SSRS showed no differences in social skills or academic competence between groups of students who participated in the BEP and another group that did not (Simonsen et al., 2011). Finally, Mong and colleagues (2011) showed increased Mathematics performance, as measured by digits correct per minute, for elementary level boys who participated in the BEP.

Peer comparisons. Two studies have compared target student performance against that of typically developing peers (Hawken & Horner, 2003; Fairbanks et al., 2007). First, Hawken and Horner (2003) observed and recorded both problem behavior and academic engaged time of four target students and randomly selected classmates. Results showed decreases in problem behavior within the range of same-age peers after target students participated in the BEP (Hawken & Horner, 2003). Evidence from the same investigation also showed participation in the BEP was associated with increases in academic engaged time. Targeted students performed at levels similar to control peers

(Hawken & Horner, 2003). Fairbanks and colleagues (2007) also demonstrated positive results among a cohort of 10 students who received the basic BEP and reported outcomes in relation to typically developed classmates. Four of the 10 students who participated in the BEP showed decreases in problem behavior that were near to or below the level of an observed peer (Fairbanks et al., 2007).

Social validity. Several studies that examined BEP implementation in schools settings also reported high ratings for social validity features (Filter et al., 2007; Hawken & Horner, 2003; Hawken et al., 2007; Hawken et al., 2011; Lane et al., 2012; Mong et al., Simonsen et al., 2011; Todd et al., 2008). For example, in a descriptive study comparing student discipline rates before and after participation in the intervention, 17 participating faculty and staff were asked during regularly scheduled team meetings to rate effectiveness and efficiency of the BEP using a 6-point, Likert scale response format (Filter et al., 2007). Results indicated favorable perceptions of the intervention from a majority of respondents. Overall scores showed mean ratings across groups of teachers, administrators, and staff as 4 or higher, which provided evidence for ease of implementation, importance of effects, and preference of the BEP compared with other interventions (Filter et al., 2007). Finally, consistently high ratings for social validity of the BEP have been documented even when assessed using different instruments. Previous investigations have included social validity ratings measured by the *BEP Acceptability Questionnaire* (Crone, Hawken, & Horner, 2012), the *Intervention Rating Profile* (IRP-15; Witt & Elliott, 1985), and the *Contextual Fit Questionnaire* (Horner, Salatine, & Albin, 2003). A brief description of instruments and results associated with the BEP follow.

The BEP Acceptability Questionnaire. The BEP Acceptability Questionnaire is one common method for assessing perceptions about indicators of social validity (Hawken & Horner, 2002; Hawken et al., 2007; Hawken et al., 2011). The BEP Acceptability Questionnaire includes five items that measure participant perceptions of the BEP related to improvements in behavior, improved academic performance, ease of implementation, worth the time and effort to provide, and would recommend the same treatment for students with similar concerns. Hawken and Horner (2003) documented positive perceptions about the BEP from participating teachers with mixed results from parents. Teachers rated the intervention as 4 or higher on most items. One exception was a lower rating for improved academic performance associated with one student who participated in the intervention for only a short amount of time (Hawken & Horner, 2003). In contrast, while all parents rated the intervention positively, as easy to participate, and viewed it as an approach for other student with similar concerns, there was less confidence from parents that the BEP was related to improved behavioral and academic performance for their children (Hawken & Horner, 2003).

In another example that included the BEP Acceptability Questionnaire, Hawken and colleagues (2007) provided results from 12 teachers, 12 students, and 10 parents who completed ratings after participating in the program. Mean teacher ratings for improved behavioral and academic performance, worth time and effort, and would recommend to others were four or higher using a 6-point scale, which demonstrated positive perceptions of the program (Hawken et al., 2007). In addition, mean ratings from parents and students also were favorable evidenced by scores of 4 or higher for all items (Hawken et al., 2007).

In a third example, the BEP Acceptability Questionnaire was administered with 17 teachers, 17 students, and 11 parents across two different schools after participating in the program (Hawken et al., 2011). Median ratings for all items across the student and parent respondents were 4 or greater indicating high levels of acceptability. Teachers in one school indicated positive ratings (4 or higher) for all items. However, in the second school the median score calculated from teacher responses was slightly lower (3.5 and 2) for improved behavior and academic performance respectively, indicating teachers were less convinced of academic benefits associated with implementation of the BEP (Hawken et al., 2011).

The Intervention Rating Profile. To a lesser extent, the Intervention Rating Profile (IRP-15; Witt & Elliott, 1985) and the Children's Intervention Rating Profile (CIRP, Witt & Elliott, 1985) were also used to assess social validity in some investigations of the BEP (Lane et al., 2012; Mong et al., 2012; Simonsen, 2011). Similar to the BEP Acceptability Questionnaire, participants are asked for ratings of the treatment using a six-point scale (strongly disagree – strongly agree). Teachers and parents typically complete the IRP, which includes 15 items while students are respondents for the CIRP and rate seven items. In one investigation that included the IRP as a measure of social validity results from school counselors who facilitated the BEP and classroom teachers that also implemented components of the program showed the program was acceptable and effective, but respondents were somewhat concerned about the time required for implementation (Mong et al., 2012). In a second example using the IRP teachers rated the BEP more favorably than another intervention, which was the school's standard practice of treatment (Simonsen et al., 2011).

Contextual Fit Questionnaire. Two studies also conducted a systematic assessment of contextual fit associated with implementation of the BEP (Campbell & Anderson, 2011; Todd et al., 2008). In the first study, participating teachers completed the *Contextual Fit Questionnaire* (Horner, Salatine, & Albin, 2003), which assessed ease of implementation, effort required, and whether the effects of the intervention are worth the effort required. Todd and colleagues (2008) provided results from seven classroom teachers and three school staff members who indicated the BEP intervention was appropriately matched with the resources available and needs of students and teachers in their setting. Raters indicated they were knowledgeable about components that should be implemented and also that they acquired adequate skills for delivering the intervention successfully (Todd et al., 2008). In addition their responses indicated the BEP was efficient, effective, met the needs of students and that sufficient supports and resources were available for delivering the intervention (Todd et al., 2008). A second study also found contextual fit of the BEP was rated highly (98%) during implementation and slightly higher (100%) at completion of the program (Campbell & Anderson, 2012).

Implementation with fidelity. Numerous investigations of the BEP have documented school personnel as successful implementers of the BEP (Campbell & Anderson, 2011; Campbell & Anderson, 2008; Ennis et al., 2012; Fairbanks et al., 2007; Filter et al., 2007; Hawken et al., 2007; Hawken et al., 2011; Lane et al., 2011; McIntosh et al., 2009; March & Horner, 2002; Mong et al., 2011; Simonsen et al., 2011; Todd et al., 2008). For example, in a recent demonstration school personnel implemented the BEP with four students in a general education setting (Campbell & Anderson, 2011). Fidelity was monitored using a 12-item observation checklist that included items to be completed

across the five intervention components (check-in, teacher feedback, check-out, data collection, and parent participation). Results showed accurate implementation with an average 97% of required items completed during fidelity checks (Campbell & Anderson, 2011). Similarly, in a second example fidelity of school personnel BEP implementation was monitored using a 10-item checklist and indicated delivery of the intervention with 100% accuracy for each participant (McIntosh et al., 2009). High levels of intervention delivery were also assessed using an observation checklist when school personnel delivered the BEP for junior high and high school level students in a residential treatment setting (Ennis et al., 2012). In the Ennis and colleague study average fidelity of implementation across checks neared 92%.

Using a different approach, some studies have incorporated an implementation checklist with self-assessment by school BEP implementers and shown that school personnel can complete daily BEP activities with high levels of accuracy (Filter et al., 2007). Review of permanent products (i.e., student daily progress report) also has been a noted method for monitoring school implementation of the intervention (Hawken & Horner, 2003). Results of DPR reviews show high implementation from BEP facilitators (83%) and classroom teachers (92%), but lower levels from parent participants (Hawken & Horner, 2003).

Finally, fidelity of school personnel BEP implementation was evident in two studies that included larger samples of students (March & Horner, 2002; Simonsen et al., 2011). In the first example, a school team, which included three special education teachers, a school psychologist, a school counselor, and an educational assistant, provided and monitored a BEP intervention for 24 students in middle school (March &

Horner, 2003). Student progress reports were reviewed to determine daily checks and teacher feedback were provided. Results showed all 24 students maintained participation in the program with no more than one DPR per week that was missing data (March & Horner, 2002). In a second example a school BEP team which included three counselors, one social worker, and three graduate interns as successful intervention facilitators for 27 middle school level students (Simonsen et al., 2011). Implementation was monitored regularly and outcomes indicated an average 93% compliance with essential features of the intervention (Simonsen et al., 2011).

Implications. Taken together, results from the existing research base show the BEP as a promising intervention for children and youth who are at risk in educational settings. First, evidence indicates use of the BEP is associated with changes in student behavior that predominately include reductions of problem behavior but also show increases of prosocial and academic behaviors. Additionally, in some cases behaviors were changed in the desired direction to levels that were comparable with typical peers. Given the impact of the BEP on some types of behavior it is worth considering that the treatment might also impact other types of behavior that have not already been investigated (i.e., overly anxious, withdrawn, low levels of interaction, frequent somatic complaints).

Second, educators who have implemented the BEP generally rate it positively. In addition students and parents involved with the program also have indicated they value the treatment and outcomes associated with it. Although perceptions of the BEP have been largely favorable these ratings may be specific to the types of behaviors that changed. While students, parents, and teachers report the BEP as easy to implement and

worth the time and effort when provided to address externalizing, acting out behaviors, the same ratings may not be indicated for other kinds of problems. The extent to which teachers and parents are willing to implement the BEP and value outcomes associated with the treatment for children who are not acting out, but show other kinds of risk has not been determined.

Third, data from studies of the BEP clearly show school personnel can implement the intervention with high levels of fidelity. These effects have been replicated across multiple investigations conducted by different research teams and in a variety of settings. This outcome is important because it addresses the need of schools to deliver effective supports, with limited resources, for increasingly large numbers of students with academic and/or behavioral risk. However, the extent to which the intervention can effectively be provided for all students at risk has not been fully examined. To date high levels of implementation have been achieved only among students with externalizing problems.

Finally, a distinct advantage of the BEP is that it can be delivered, in the same fashion, for groups of children with similar needs. Group-oriented interventions, such as the BEP, offer one option for schools with limited resources and facing large numbers of children in need. The BEP may serve as an efficient system for delivering effective supports to greater proportions of students.

Summary

Thus far the prevalence and impact of mental health disorders has been identified and described. Anxiety and mood disorders were noted among the most frequent conditions children experience. A review of effective (i.e., well established) treatments

for phobias, anxiety, and depression in children was provided and what is currently known about school-based mental health programs was discussed. Further, recommended strategies and program features specific to the needs of students with internalizing concerns and for implementation of services in school settings were noted. From this review of the literature a number of key points about mental health interventions and service delivery in school settings were evident.

First, while some treatments have shown effects for reducing symptoms of anxiety and/or mood disorders in children the research base continues to be small. More investigations that include children with or at risk for internalizing problems are needed.

Second, although evidence indicates mental health programs can be delivered in schools settings, further investigation of the variables that impact implementation fidelity is warranted. While there may be strong evidence of efficacy for a particular practice if school personnel, in typical settings with commonly available resources, cannot deliver the strategy, as designed, the potential for positive impact may be compromised.

Third, even though the existing research base is small, recommended strategies for students with internalizing problems are available and systemic features for enhancing the effects of mental health service in schools have been identified. Given the current prevalence of students in need recommended strategies and supports must be provided on a larger scale..

The Behavior Education Program (BEP) is an evidence-based intervention, which incorporates a number of recommended practices for meeting the needs of students with both externalizing behaviors, but may also be equally effective for children with internalizing problems. Previous investigations provide evidence that participants rate

the BEP favorably and further that typical school personnel can implement the program with fidelity.

Research Purpose

Although research for the BEP intervention among elementary and middle school students has shown promising results, the effect of the treatment on patterns of internalizing problems that may develop into anxiety and/or mood disorders has not been examined. Therefore, the purpose of this study was to investigate the impact of the BEP intervention on behavioral patterns and rates among children at-risk for developing anxiety or mood disorders. Considering the types of treatments most frequently provided for children with identified with emotional disorders (e.g., cognitive behavioral therapies), it is possible that modifications or a variation of the basic BEP may be required. However, prior to investigating modifications or variations of the typical BEP treatment, initial trials of the intervention, as developed, are warranted. This approach is consistent with a fundamental principle of applied behavior analysis (i.e., parsimony) in that simplest explanations should be ruled in or out prior to considering those that are more complex. Thus, this study investigated use of the basic, five-component, BEP treatment for students who were identified by their classroom teacher with internalizing problems. The primary aim of the investigation was determining the impact of the BEP on children's internalizing problems. A second aim was examining impact of the BEP on academic functioning. As noted previously, few studies have measured the effects of school-based interventions on both mental health and academic outcomes. Finally, because previous research of the BEP has not specifically included participants with internalizing problems a third aim was to document aspects of social validity when the

BEP is provided for a sample of students in this population. In sum, this study extended the existing research base by examining the effects of the BEP on teacher perceptions of student internalizing problems as well as actual student academic functioning. In addition, participant perceptual data of the BEP for students with specific behavioral characteristics were collected.

Research Questions

The following research questions were examined:

1. To what extent do teacher ratings of student anxiety, depression, somatization, and internalizing problems change after participation in the BEP?
2. To what extent is use of the BEP associated with changes in observed academic engaged time when students with elevated levels of anxiety, depression, somatic complaints, and/or internalizing problems participate in the intervention?
3. Does the BEP, when used with children perceived to be experiencing internalizing problems, demonstrate similar results for social validity as documented by past research?

CHAPTER II

METHOD

Study Overview

The purpose of this study was to investigate the effects of the Behavior Education Program (BEP) on internalizing problems and academic engaged time exhibited by elementary school students identified at risk for developing anxiety or mood disorders. The study was designed to answer the following research questions:

1. To what extent do teacher ratings of student anxiety, depression, somatization, and internalizing behavior problems change after student participation in the BEP?
2. To what extent was use of the BEP associated with changes in observed academic engaged time when students with elevated levels of anxiety, depression, somatic complaints, and/or internalizing problems participate in the intervention?
3. Does the BEP, when used with children perceived to be experiencing internalizing problems, demonstrate similar results for social validity as documented by past research?

Changes in teacher ratings of internalizing problems before and after intervention were documented. In addition, a single-subject multiple baseline design was used to examine student academic engagement during participation in the BEP. Finally, students, parents and teachers rated acceptability of the BEP treatment for addressing the needs of children with internalizing problems. The study was conducted through the following five phases: (a) recruitment of a research site, (b) selection of student participants, (c) intervention training, (d) data collection and (e) BEP intervention. This chapter specifies

characteristics of the student participants and interventionists and also describes the setting where the study was conducted. In addition a detailed report of the experimental procedures is provided.

IRB Approval

The activities proposed for this study met the federal definition for "human subject research" and thus required approval from the researchers' institutional review board (IRB) before beginning the investigation. To receive IRB consent, the researcher submitted an addendum to an existing project conducted within the MU Center for School-wide Positive Behavior Supports, which was approved September 8, 2011 continuing through September 27, 2012 (project #99-11-352). Application materials documented that the project would adhere to ethical, cooperative, record-keeping, and integrity responsibilities outlined by the supervising institution. In addition, the researcher ensured adequate resources were available to fulfill all phases of the investigation and that all members of the research team were adequately trained to complete the requirements of the study. There were no unanticipated events that jeopardized safety or wellbeing of participants, conflicts of interest, extension of timelines, or changes in approved activities.

Participants and Setting

School Recruitment

The study took place in one rural, primary school located in the central region of a Mid-western state (see Table 2 for demographic characteristics). Initial recruitment for the research site took place during professional development workshops for administrators and staff of schools implementing School-wide Positive Behavior

Supports (SWPBS). The researcher presented details of the study purposes, eligibility criteria, and anticipated benefits and risks of participation. Follow-up contact was made with district-level administrative personnel and the building principal for each school that indicated interest in the project.

Table 2

School Demographics

Grade Levels	Total Enrollment	Free/Reduced Lunch %	% Student Ethnicity				
			Asian	Black	Hispanic	Indian	White
K-2	362	61.9	0.00	1.20	1.80	.60	94.90

To serve as a research site the participating school met the following eligibility criteria: (a) effective implementation of SWPBS universal level, (b) implementation experience with the Behavior Education Program (BEP) intervention, and (c) district-level approval for school-wide screening to identify students with elevated levels of emotional or behavioral risk. At the time of the study staff from the selected research school were in their fourth year of SWPBS implementation. Two recent evaluations demonstrated the universal tier was implemented with fidelity. Results from administration of the School-wide Evaluation Tool (SET; Horner et al., 2004) indicated 94% of fidelity criteria were met the year prior to the study and 100% of criteria met during the year of the study.

Subject Selection

The process for selecting participants included universal screening of all students for emotional or behavioral risk followed by additional assessment using teacher ratings of behavior, teacher interviews, and direct observation. Table 3 provides a summary of the selection process. Students were excluded if (a) screening scores indicated extremely elevated levels of emotional or behavioral risk (i.e., T score of 70 or higher); (b) parents did not provide consent; (c) scores from teacher ratings of behavior showed no risk for anxiety, depression, somatization or internalizing problems; (d) the student was already participating in the BEP; or (e) behavioral observations documented high levels of academic engaged time. Included students met the following conditions: (a) elevated score on the behavioral screening; (b) parental consent to participate; (c) at-risk or clinically significant scores from teacher ratings of anxiety, depression, somatization, and/or internalizing problems; (d) the student had no prior experience participating in the BEP and was not already participating in any other social-emotional-behavioral intervention beyond what school personnel provided for all students; (e) levels of observed academic engaged time were lower than that of typical classmates; and (f) the student was not identified as eligible for receiving special education services.

Table 3

Selection Procedures

Stage 1: Universal Screening
• The Behavioral and Emotional Screening Scale (BESS) was completed for all students in Kindergarten through second grade in the participating school. • Information about the research project was provided to families of students identified with *Elevated* risk (i.e., T-scores 61-70).
Stage 2: Informed Consent
• Parental consent was obtained to complete additional behavioral assessments and enroll eligible students in the research study.
Stage 3: Additional Behavioral Assessments
• Teacher Rating Scales of the Behavioral Assessment System for Children-Second Edition (BASC-2) were completed for students with consent. • Structured teacher interviews were conducted for students with BASC-2 scale or composite scores of 60 or higher in the areas of anxiety, depression, somatization, and/or internalizing problems. • Direct observation was completed for students with qualifying BASC-2 scores who were also reported by teachers as having low levels of academic engagement.
Stage 4: Notification of Eligibility
• Families and classroom teachers of children who met BASC-2 score and low-level engagement eligibility criteria for participation were notified.
Stage 5: Student Assent
• Student agreement to participate in the research project was secured.

Note: Score classifications as cited in Kamphaus & Reynolds, 2007, pp. 11-16.

Universal screening. First, school personnel conducted a universal screen to identify students at-risk for emotional and/or behavioral concerns. Fifteen classroom teachers (i.e., five teachers in each of three grade levels, K-2) completed the *Behavioral and Emotional Screening System* (BESS) rating questionnaire for each student in their homeroom class (Kamphaus & Reynolds, 2007).

The BESS is a research-based instrument with strong psychometric properties for predicting emotional or behavioral strengths and concerns among children in preschool through high school (Kamphaus & Reynolds, 2007). The instrument includes brief statements that can be rated as *never (N)*, *sometimes (S)*, *often (O)*, or *almost always* (A) by teachers, parents, and/or students. For this investigation the teacher-rating questionnaire was used. Scores from 10-60 are interpreted as *Normal*. Scores of 61-70 indicate an *Elevated* level of emotional and behavioral risk. Scores of 71 or higher are viewed as *Extremely Elevated*.

Internal consistency reliability values for the BESS, which indicate the extent to which similar items within the scale measure the same construct, range from .96 to .97 across age categories for the teacher rating scale. Test-retest reliabilities, which demonstrate consistency of the same rater across brief periods of time, were .91. Interrater reliability, which defines the extent to which one child is rated similarly by two different raters, is slightly lower with a demonstrated value of .71 (Kamphaus & Reynolds, 2007).

All students in grades K-2 were screened unless a child was new to the classroom at the time of screening such that the designated rater had not known the student for a minimum of six weeks. Instructions for completion of the screener were provided

according to procedures outlined in the manual. To complete the screening questionnaire classroom teachers responded to 27 statements using an *Almost Always*, *Often*, *Sometimes*, and *Never* scale. Assessment required approximately two minutes per student and took place during a professional learning time designated by the building administrator.

A commercially published software program (BASC-2 BESS ASSIST) was used to generate a summary report for each participating classroom teacher. Classification denoting level of risk for developing an emotional or behavioral concern was determined by scored results. 319 students in grades K-2 were screened. Results identified 63 students with scores indicative of risk. Specifically, 42 students scored in the *Elevated* range and 21 students were in the *Extremely Elevated* range.

Informed consent. Members from the school's positive behavior support team met with each of the 15 classroom teachers to review the screening results. During this time teachers were provided with a verbal description of common internalizing characteristics (e.g., shy, withdrawn, anxious, worried, fearful, or sad) and asked to identify students with *Elevated* screen scores who also demonstrated behaviors matching the provided description. From the pool of 42 candidates with elevated screen scores classroom teachers nominated 17 students they perceived to be experiencing internalizing problems.

School personnel (i.e., administrator and counselor) provided information about the research project and a letter of consent to the families of each child who was nominated by a classroom teacher. Parents of these children were offered an opportunity to give written consent for additional, individualized assessment using the *Behavior*

Assessment System for Children – Second Edition (BASC-2; Reynolds & Kamphaus, 2004), teacher interviews, and direct observation. In addition, signed parental consent also indicated permission for their child's participation in the research study if BASC-2 scores and other behavioral indicators met eligibility criteria (see Appendix A). Parental consent was obtained at this point because the additional behavioral measures were used for research purposes and not provided to all students, rather only to those with elevated screen scores. From the pool of 17 nominated students 12 families provided consent for proceeding with the next stage of identification.

Additional behavioral assessment. After receiving signed consent forms from school personnel the researcher completed a multi-stage, individualized behavioral assessment that included teacher ratings, structured interviews, and direct observation.

Teacher ratings. Classroom teachers completed behavioral ratings using the BASC-2, which provides a comprehensive measure for numerous aspects of behavior that include adaptive and maladaptive dimensions. The BASC-2 is a standardized, norm-referenced rating scale. Results for the BASC-2 are reported as *T*-scores, with a mean of 50 and a standard deviation of 10. The Teacher Rating Scales (TRS) of the BASC-2 measures adaptive and maladaptive behaviors in school settings (Reynolds & Kamphaus, 2004). Results from the BASC-2 include a summary of performance across broad domains of Externalizing Problems, Internalizing Problems, School Problems, and Adaptive Skills, which are reported as composite scores. In addition, the Behavioral Symptoms Index (BSI) is a composite score that summarizes overall level of problem behaviors (Reynolds & Kamphaus, 2004). The TRS of the BASC-2 also provides scores for individual clinical and adaptive scales such as aggression, hyperactivity, or learning

problems. The recommended interpretation for TRS results is to focus on individual scale scores first and consider composite scores as secondary information (Reynolds & Kamphaus, 2004). In this investigation results for the anxiety, depression, and somatization scales as well as the internalizing problems composite were the scores of interest. Appendix B provides a summary of reliability and correlation with another instrument for the BASC-2 scale and composite scores included in this study.

The internal consistency and test-retest reliabilities of the TRS have demonstrated high alpha values within the combined sex, general norm samples among children ages 6-11. The interrater reliability values for the anxiety and depression scales and the internalizing composite were lower. To address this concern only the main grade level classroom teacher of each child was asked to provide behavioral ratings rather than also including specialist teacher perceptions (e.g., music, art, library, P.E etc.).

Finally, the BASC-2 has documented adequate correlations with another research-validated instrument that measures similar constructs. When compared with the Achenbach System of Empirically Based Assessment (ASEBA, Achenbach & Rescorla, 2001) the TRS of the BASC-2 was highly correlated for the Internalizing Problems composite (.80) while scale score correlations were slightly lower (.75 - .77).

Portions of the BASC-2 scale and composite scores were used as eligibility criteria for student participants and also served as an indirect measure of student behaviors prior to intervention. All rating forms were scored using the BASC-2 ASSIST software. Results identified student candidates with behavioral characteristics needed to address the research questions posed. Specifically, students whose BASC-2 ratings met one or both of the following criteria qualified for the next assessment: (a) at-risk or

clinically significant scores for anxiety, depression, or somatization scales, and/or (b) at-risk or clinically significant composite score for internalizing problems. Four of the 12 students did not have scores indicating emotional risk (i.e., anxiety, depression, somatic complaints, or internalizing problems) and subsequently were omitted from further consideration as research study candidates.

Structured teacher interviews. After reviewing scores from the BASC-2 assessments, the researcher examined existing school behavioral data for each of the eight remaining students (i.e., attendance and disciplinary events). The majority of students did not have documented behavioral incidents (e.g., office discipline referral) from which information could be gathered, thus teacher anecdotal report was used as a common metric for behavioral data collection.

Teacher anecdotal information was collected using a structured interview format. The researcher conducted interviews with each classroom teacher of the eight students whose scores indicated risk for anxiety, depression, somatic complaints, and/or internalizing problems. Interviews were used to determine types of problem behavior demonstrated at school, setting and location of problem behavior occurrences, antecedent and consequence conditions and perceived function of problem behavior for each student. All interviews were conducted in a standardized fashion using the Functional Assessment Checklist for Teachers and Staff (FACTS, March et al., 2000).

The FACTS includes use of a semi-structured interview and checklist format to be completed with teachers/staff and students to identify setting event, antecedent and consequence conditions of student behavior. Items within the FACTS prompt teachers to describe types of problem behavior most frequently demonstrated, instructional activities

that are most often associated with problem behaviors, and adult and/or peer responses immediately after problem behavior occurs. Results are then used to develop a summary statement about problem behaviors that includes a hypothesized function of behavior (i.e., obtaining adult or peer attention, tangible items/activities, or sensory stimulation, or escaping academic tasks, social interactions, or sensory stimulation). Evaluation of psychometric properties have shown overall test-retest reliability for the FACTS was strong (.77) and also documented moderate to strong evidence of convergent validity with direct observation (identified same maintaining consequences in 90% of cases) and functional analysis procedures (similarity in 77% of cases) (McIntosh, Borgmeier, Anderson, Horner, Rodriguiez, and Tobin, 2008).

As a result of the interview process another four students were eliminated as research study candidates. Two students were removed because of previous experience in a modified version of the BEP intervention. For a third student the classroom teacher identified writing time as the most problematic setting but also indicated the student received special education services for a physical impairment. Given a possibility the student's fine and gross motor skills could be associated with problem behavior demonstrated during writing activities this student also was excluded as a research study participant. The final student was in the process of evaluation for special education services because of teacher concerns in the areas of receptive and expressive language difficulties. This student was eliminated because of the potential impact of language deficits on student performance during academic instruction.

Results from FACTS interviews with classroom teachers of the remaining four students indicated overall low demonstrations of externalizing problem behaviors, which

was corroborated by scores from the BASC-2 and low or zero documented disciplinary incidents. In addition, classroom teachers reported each of the four students as on grade level or as having average academic achievement. However, two students were identified as over-age for their grade level (i.e., each had been retained after their kindergarten year). Teacher perception of behavioral function for three of the students was reported as task avoidance. For the remaining student the classroom teacher identified task avoidance and attention seeking for functions of problem behavior.

Observations of behavior. Finally, the researcher conducted two to four 15-minute observation sessions for each of the remaining four students in the most problematic setting to verify or disconfirm information provided by the classroom teacher and to further assess function of problem behaviors demonstrated. All observations occurred during a Language Arts instructional period that included whole group, peer partner, or independent work conditions with reading and/or writing tasks. One of the four students was eliminated from further consideration because academic engaged time (AET) was documented for 80% or more of the session across multiple observations. The remaining three students demonstrated AET at or below 80% for three consecutive sessions (Student 1 = 53, 65, 67%; Student 2 = 60, 50, 65%; Student 3 = 78, 80, 51%). Example problem behaviors included not looking at the teacher while instruction or work directions were given, not looking at materials used by the teacher during instruction, not working on assigned tasks according to directions provided, not looking at materials required for completion of tasks, looking at materials unrelated to the assigned task, whispering to or touching peers, head down on desk during work time, failure to

complete assigned tasks and/or making comments to teacher or peers that were unrelated to the instructional activity.

In most instances the classroom teacher did not acknowledge children's limited engaged time. Only one of the three students was observed to complete an assigned work task. Precorrects for appropriate work time or assistance seeking behaviors were not provided during any observation session. In addition, instances of positive specific behavioral feedback provided individually to the target student or given to a group that included the target student also were not observed. The generally low levels of academic engaged time and low rates of teacher attention verified task avoidance as the primary function of behavior for each student.

Notification of eligibility. Classroom teachers and families of the three selected children were provided with information about the BEP and data-collection procedures for the research study. In addition, agreement to provide the teacher component of the BEP and to participate in the research project was elicited from the classroom teachers of each eligible student (see Appendix A).

Student assent. The BEP is intended to be a positive support. Accordingly if a student was unwilling to participate in the program he or she was not required to do so. The school counselor met with selected students to secure assent for participation. Each student who met eligibility criteria agreed to participate in the intervention (see Appendix A).

Participant Characteristics

The selected children were three primary level (K-2) students. At the time of the study none of the three students had any documented disciplinary incidents (i.e., office

referred events or minor classroom infractions). No students were reported as physically or verbally aggressive with teachers or peers and there were no verbal or written reports for any student that included theft, vandalism, or self-injury. Problem behaviors as identified by classroom teachers included, unresponsive, withdrawn, work not completed, easily frustrated and mildly disruptive (e.g., easily distracted, off-task, gets in others' space, failure to raise hand, seeking hugs).

Student 1 was an eight year old, Caucasian female in the second grade. The most recent available academic achievement data showed Student 1 performing in the bottom third percentile range for the areas of reading and math. Results from the TRS of the BASC-2 indicated clinically significant scores for the internalizing problems composite and also for the anxiety and somatization scales. Additionally, the scale score for depression fell at the upper limit of the at-risk range. The classroom teacher also rated Student 1 in the at-risk range for externalizing, school problems, and the behavioral symptoms index composite. Scores for the adaptive skills composite were average.

Student 2 was a six-year-old Caucasian male enrolled in kindergarten. Student 2 was over-age for his grade level because he was retained in Kindergarten after the 2011 school year ended. Academic achievement results showed that Student 2 was performing below average in the areas of math, reading, and listening. Teacher ratings of behavior indicated clinically significant scores for the anxiety and depression scales. In addition the internalizing problems composite also was near a clinically significant level. Student 2 ratings fell in the at-risk range for attention problems, atypicality, and the behavioral symptoms index. In addition, social skills and study skills were scored as at-risk.

Student 3, who had also been retained at the end of his Kindergarten year, was an eight-year-old Caucasian male in second grade. Student 3 demonstrated academic performance in the bottom third percentile range for both math and reading. The classroom teacher rated Student 3 in the clinically significant range for internalizing problems, somatization, and atypicality. Scores for anxiety, depression, conduct problems, and the externalizing problems composite fell in the at-risk range. In addition, attention, learning problem, and withdrawal scale scores along with the school problems and behavioral symptoms index composites were rated at-risk. However, the adaptive skills composite and scale scores were all within the average range.

At the time of the study the school was using a response to intervention framework for providing increasingly intensive academic supports according to student needs. Academic supports were provided individually or in small groups during the first 30 minutes of each school day. Each of the three research students were participating in a small group intervention to address reading deficits, however none of the three participants had been identified as eligible for receiving any special education academic, behavioral or related services in or outside of the school setting during the time of the study. In addition, none of the participants were receiving any services or treatment for any type of mental health condition or concern during the duration of the study. Table 4 provides a summary of academic and behavioral descriptors for each student.

Table 4

Student Demographic, Academic, and Behavioral Characteristics

Student Participants	Student 1	Student 2	Student3
Demographic Information	Female Caucasian 2nd Grade	Male Caucasian Kindergarten	Male Caucasian 2nd grade
Academic Achievement Scores	Rasch Unit (RIT) Scores Administered 1.18.2012 Math 175 Percentile Range = 12-27 • District Average = 184 • Norm Group Average = 186 Reading 175 Percentile Range = 22-35 • District Average = 184 • Norm Group Average = 184	Stanford Achievement Test10 Administered 5.5.2011 Mathematics PR - S = 16-3 Below Average Total Reading PR – S = 14-3 Below Average Word Reading PR - S = 20-3 Below Average	Rasch Unit (RIT) Scores Administered 1.18.2012 Math 179 Percentile Range = 22-39 • District Average = 184 • Norm Group Average = 186 Reading 172 Percentile Range = 16-28 • District Average = 184 • Norm Group Average = 184

Note: Percentile Rank-Stanine (PR-S).

Table 4 (continued)

BASC-2 Scale and Composite Scores	Student 1	Student 2	Student 3
Hyperactivity	66*	65*	58
Aggression	61*	55	59
Conduct Problems	62*	53	62*
Externalizing Problems	64*	58	60*
Anxiety	76**	78**	65*
Depression	69*	70**	66*
Somatization	73**	46	77**
Internalizing Problems	78**	69*	74**
Attention Problems	59	64*	68*
Learning Problems	60*	52	64*
School Problems	60*	59	67*
Atypicality	66*	62*	72**
Withdrawal	57	52	66*
Behavioral Symptoms Index	66*	64*	69*
Adaptability	47	43	47
Social Skills	51	40*	42
Leadership	44	45	42
Study Skills	42	38*	42
Functional Communication	41	44	41
Adaptive Skills	44	41	42

Note: *Score in the at-risk range; **Score in the clinically significant range. Behavior Assessment Scale for Children – 2nd Edition (BASC-2; Reynolds & Kamphaus, 2004).

Interventionists

The three student participants were enrolled in two different classrooms. Student 1 and Student 3 were in the same second grade class. Student 2 was in a kindergarten class. Accordingly, two classroom teachers (Teacher A from second grade and Teacher B from kindergarten) provided one component of the BEP (i.e., teacher feedback) and two additional staff members, the school guidance counselor and the speech language pathologist, served as the BEP facilitators to conduct the daily check-in, check-out, and data collection components. Thus, a total of four school faculty members were primarily responsible for providing the BEP intervention. All interventionists were Caucasian

females with a master's level of education. Years of teaching experience among the four staff members ranged from three to 18 years. All intervention personnel had prior experience with the BEP and also served other students who participated in the program at the time of the study but were not enrolled in the research project.

Design and Intervention Procedures

The study was conducted using a multiple baseline design across students (Tawney & Gast, 1984). Use of this design was suited to the purposes and research questions of the study. Multiple baseline across subjects was selected because the dependent measures were intergroup and participants demonstrated similar behavior under the same conditions (Tawney & Gast, 1984). Use of the design allowed systematic manipulation of the independent variable that was controlled by the experimenter. Staggered implementation of the intervention, as was demonstrated when the design occurred across subjects, provided multiple replications of treatment effects at different times. Demonstration of experimental control and replication of effects across participants added to the validity of the results by increasing the likelihood that outcomes were attributed to the independent variable (Horner et al., 2005; Kazdin, 1982; Tawney & Gast, 1984).

Intervention Training

The researcher trained a total of four school staff members to provide components of the BEP for students in the research study. Two staff members served as BEP facilitators and provided daily check-in, check-out, and data entry components (i.e., the school counselor and the speech-language pathologist). Another two staff members, who were classroom teachers of students in the research study, were trained to provide the

teacher feedback component of the BEP. Training for each of the four staff members took place on separate occasions prior to implementation. Parents and specialist teachers (e.g., music, art, physical education) of participating students received information and training from the school BEP facilitators.

BEP facilitator training. Initial training for the BEP facilitators took place during two full day workshops that occurred six months and then again three months prior to the research study. Training sessions occurred on a university campus facility and were provided in a large group setting that included approximately 25 other educators. Participants were provided with a BEP manual (Crone et al., 2010), an overview of the research base for the BEP, and a checklist of steps for developing the program in their school. In addition, video clips of effective implementation were viewed and discussed and instructions for creating a student Daily Progress Report (DPR) were provided.

During a full day follow-up workshop that took place approximately three months before the research study the BEP facilitators received specific feedback from the researcher about their initial planning efforts (e.g., location of check-in and check-out, DPRs, staff training, incentives). In addition, instructions for use of a data collection spreadsheet were provided and participants reviewed and evaluated example student data.

After the study participants were selected the BEP facilitators, who at this time were already implementing the intervention with other students in the school, participated in a booster training session to finalize details for supporting students in the research project. During this session facilitators received a copy of the observation checklist that was used to monitor fidelity of implementation. Steps on the checklist were reviewed and

there was an opportunity for questions. Facilitators were also given instructions for providing daily progress reports to parents and for data collection measures that would occur after the intervention (i.e., BASC-2 teacher ratings and intervention acceptability questionnaires).

Classroom teacher training. Approximately one week prior to intervention following baseline data collection, the researcher provided one-on-one booster training for the two classroom teachers. Training took place in the school staff lounge at a time designated by the building administrator. A trained BEP facilitator (i.e., the school counselor or speech-language pathologist) also was present. First, an overview of the program and steps for implementation were verbally described to the teacher. Next, video examples for effective implementation of the teacher feedback component were viewed and discussed. Third, with assistance from the researcher behavioral expectations were identified for the student DPR and times for providing feedback were designated. In addition, teachers were explicitly asked to initiate feedback sessions with each student even if the student did not readily seek out the teacher. Finally, the teacher had an opportunity to ask questions.

Daily progress reports (DPR). With assistance from the researcher, classroom teachers created a DPR for student participants (see Appendix C). The DPR was designed to include multiple evaluation periods across each school day. Behavioral expectations listed on the DPR aligned with school-wide expectations (i.e., Be Safe, Be Respectful, and Be Responsible) and were further specified for each student according to teacher reported areas of need. For Student 1 targeted behaviors included keep hands feet and all other objects to self, be an active listener, and work on stamina. The DPR for Student 2

listed eyes on the teacher, get to work right away, raise your hand and wait for the teacher, and work carefully to get the job done. Target behaviors for Student 3 indicated participate in class discussions, work on stamina, and raise your hand to ask for help or to have a teacher check your work. Student DPRs also included a 3-point rating scale, ranging from 1 for *did not display* to 3 for *displayed consistently*. Additionally, the student's and teacher's names, the date, and the student goal were listed. Space also was provided to record the total number and percentage of points the student earned each day (Crone et al., 2010).

One or two days prior to intervention the researcher demonstrated strategies for providing positive and corrective feedback. Demonstrations were completed with students from each teacher's classroom who were not participating in the research study and feedback was based on actual child performance. After watching the researcher demonstrations participating teachers were asked to practice the feedback component while the researcher observed. Comments regarding implementation were provided immediately after each practice opportunity.

Parent training. The BEP facilitators provided information to participating families regarding implementation of the home component. The home component consisted of parents or family members asking the student for their DPR each day. In addition, the parent or a family member was instructed to provide positive feedback each time the student met his or her daily goal. If the goal was not met parents were instructed to ask the student what he or she needed to differently. Finally, parents also were asked to sign and send the DPR back to school with their child the following day. Directions

for parent participation were provided verbally, over the phone, with a family member, which in this study was the biological mother of each student.

Student training. The day before intervention began for each student a BEP Facilitator met with the child to explain procedures and behavioral expectations, set a point goal, and identify student preferences for rewards. Students were instructed to report to the school counselor's or speech language pathologist's office to pick up their DPR and check-in each morning. Each participant had their own folder that included a list of student selected reinforcement options and blank copies of their DPR. Students were asked to keep the DPR folder in their classroom desk. All participants carried the DPR folder if they left the classroom for a specialist instructional period (e.g., music, art, library, computer), but students did not take the folder to the playground during recess or to the cafeteria while eating lunch. BEP facilitators instructed students to return to the office with the DPR folder at the end of each school day prior to dismissal. Finally, all students also were told about procedures for taking and returning the parent report.

Financial compensation. At the end of the study, after submitting required assessments, classroom teachers A and B each were provided with financial compensation as a token of appreciation for their participation and completion of assessments. In addition, the school's behavior support team also was awarded a monetary payment to recognize their effort and participation in the project. Finally, participating parents received a gift card after completing and returning the *BEP Acceptability Questionnaire*. Although financial incentives were provided at the end of the study none of the research participants were made aware this would occur before

agreeing to complete the study. Instead, participants received unexpected payment upon conclusion of the study.

Data Collection

Direct observation. Continuous measurement of student behavior occurred through a series of direct observational recording sessions. Direct observation using an operational definition for academic engaged time (see Table 5) was collected for each student using a duration recording system (Tawney & Gast, 1984).

Duration recording was selected for the academic engagement variable because in this study it was important to know the amount of time per session each student participated as directed with assigned activities or work tasks (Kazdin, 1982; Tawney & Gast, 1984). Although less frequently used than interval recording duration was most appropriate in the context of this study because it allowed for monitoring of an on-going, continuous behavior. Observers were asked to record behavior for 15 minutes per session. All observations occurred during the class in which the student was reported by his or her teacher to experience the greatest difficulty. For all students the identified setting was a Language Arts instructional period.

Table 5

Operational Definition for Academic Engaged Time (AET) and Recording Procedures

Operational Definition	Recording
The student was documented as academically engaged when any of the following behaviors occurred during the observation session: (a) Demonstrated active listening by keeping eyes on speaker and/or applicable materials. (b) Used materials necessary for the assigned task when applicable and according to teacher instructions (e.g., pencil, marker, scissors, and popsicle-stick). (c) Made motor responses required for the assigned task (e.g., writing, typing, cutting) when applicable and according to teacher instructions. (d) Raised hand or verbally asked for assistance. (e) Interacted with the teacher or classmates about academic matters when applicable and according to teacher instructions. Academic engagement was <u>*not*</u> coded if the student was: (a) Not looking at the teacher while she provided instruction/directions. (b) Not looking at materials the teacher used during instruction (e.g., white board, smart board, and textbook). (c) Not working on the assigned task according to teacher instructions. (d) Violating classroom rules (e.g., out of seat that was not required for assigned task, talking out, disturbing others, or sleeping). (e) Making comments to teacher or peer that are unrelated to the assigned activity.	Time-based behavior measured by total amount of time behavior occurred during an observation period. Total AET per student for each session was converted to seconds, then divided by seconds of observation and multiplied by 100 to provide percent of time academically engaged. (Tawney & Gast, 1984)

Behavioral observers included the researcher, one paid data collector, who was blind to the study conditions, and three instructional staff members (i.e., 1st grade instructional aide, district psychological examiner, and district special education coordinator) from the participating school district that also were unaware of the study purposes. Observers were trained to collect data using an I-pad/I-phone application,

Student/Classroom Observation and Analysis (SCOA). Each observer was trained individually at different time periods throughout the study. Each training session consisted of an initial meeting to (a) demonstrate the data collection application (i.e., SCOA), (b) discuss the operational definition for AET, and (c) practice using the data collection system to observe and record AET for students not enrolled in the study. Each observer completed at least two in vivo training sessions with 80% or higher interrater reliability prior to collecting data for the research participants.

Baseline. During the baseline phase, teachers were asked to provide academic instruction in their usual manner. Each student was observed during a Language Arts instructional period that occurred between 8:30 and 10:25 each morning (i.e., Kindergarten 8:30-9:10; second grade 9:15-10:25). Baseline data points were collected under typical instructional conditions, which included whole group, small group, peer partner, or independent activities. During baseline conditions research participants did not have access to an adult for daily check-in or check-out periods nor did they have a behavior monitoring chart or daily reports of performance to parents. Because the SWPBS strategies were in place for all children students in the study may have received verbal or tangible recognition (i.e., a school ticket) for meeting behavioral expectations.

Intervention. Continuous data were collected using the same procedures as described above. In addition, across baseline and intervention phases, data collectors also completed observations of a same gender peer within each participant's classroom to provide a point of reference for comparison. Using results from the universal screening (i.e., BESS) classroom teachers pointed out students who scored within the *Normal* range that were observed for comparisons with the targeted students. No identifying

information about the selected peers was provided to the researcher or data collectors. Peer data were collected using the previously described observation techniques except that sessions were reduced to 10 minutes. A shortened observation period was required so that ample time was available to collect data for study students and peers during the Language Arts instructional block. All peer observations were completed with students who did not participate in any element of the BEP.

Interobserver agreement (IOA). As soon as baseline data collection procedures began interobserver agreement was checked periodically throughout the investigation. High levels of agreement during IOA checks indicated consistency among observers, reduced the likelihood of observer bias, and signified the target behaviors were adequately defined (Kazdin, 1982). Reliable recording documented by high IOA levels contributed to the strength of overall results by accounting for one potential source of variation that was not attributed to the intervention (Kaxdin, 1982).

In this investigation, IOA checks were conducted for 25- 30% of the observation sessions per student. During IOA checks, two observers simultaneously and independently recorded the same student's behavior using the operational definition and identical data-collection procedures. At the end of each IOA session, data was examined. Agreement was evaluated by calculating a frequency ratio using the total number of seconds from each rater for AET. Specifically, the smaller total was divided by the larger total and then multiplied by 100 to indicate a percentage of agreement (Kazdin, 1982).

Social validity. Cooper, Heron, & Heward (2007) define social validity as a multi-faceted construct that includes consideration of the extent to which behaviors targeted for change were appropriate, intervention procedures were acceptable, and

meaningful changes in behavior occurred. To gather information about each of aspect of social validity for this investigation participating students, parents, and teachers completed a questionnaire at the conclusion of the BEP intervention. The questionnaire used for this study was a modified version of the *BEP Acceptability Questionnaire* – Student, Parent, and Teacher forms (Crone et al., 2010). Previous investigations of the BEP have demonstrated use of the instrument (e.g., Hawken & Horner, 2003; Hawken et al., 2007; Hawken et al., 2011). The *BEP Acceptability Questionnaire* was selected because it included questions that were relevant to the treatment provided, addressed aspects of social validity identified by Cooper and colleagues (2007), and offered results that were informative for the specific purposes of this investigation (i.e., utility of intervention for students with particular characteristics).

The BEP Acceptability questionnaire was modified by omitting one item related to improvements in attendance and tardy rates associated with implementation of the BEP. The item was removed because it was not applicable for students who participated in this study. In addition, items were slightly reworded to improve consistency across the student, parent and teacher questionnaires. This allowed results to be organized across the same five categories for all respondents (i.e., improved behavior, improved academic performance, was easy to implement/participate, was worth the time and effort, and would recommend for other students with similar behaviors).

The modified student, parent, and teacher versions of the acceptability questionnaire each included five items that were assessed using a 6-point rating scale (e.g., strongly disagree to strongly agree; not effective to very effective; very difficult to very easy). The acceptability questionnaires were administered once, after intervention.

For the student respondents, items were read and assistance for marking answers was provided. Total scores from each respondent ranged from 6-30, with higher scores indicating more favorable perceptions of the treatment. Appendix D provides a copy of the student, parent, and teacher acceptability questionnaire items.

BEP Intervention

To meet the requirements of a rigorous concurrent multiple baseline research design introduction of the BEP was staggered across the three students. Student 1 began the BEP in late March and participated through the end of the school year, which occurred in mid May, for a total of 26 school days. Student 2 began treatment in early April and continued through mid May, which provided 20 days of intervention. The BEP was introduced in early May for Student 3. He received five days of the treatment.

The intervention phase included the following daily practices.

1. Participating students completed a "check-in" with an intervention facilitator each morning after arriving to school. The facilitator provided students with a Daily Progress Report (DPR) and offered pre-corrects for meeting daily behavior expectations and point goals.
2. Using behavior expectations listed on the DPR, students received specific feedback about behavioral performance from their classroom teacher at the end of each class period or during natural transitions throughout the school day. Specifically, the classroom teacher gave positive, specific praise for appropriate behavior, provided corrective feedback when applicable, and then rated student demonstration of expectations using a predetermined point system. Teachers

were explicitly directed to initiate the feedback interaction if the child did not independently ask for ratings on the DPR.

3. At the end of each school day, students returned to the intervention facilitator for "check-out". At this time points earned on the DPR were totaled. Intervention facilitators provided students with additional verbal praise and a student selected reward, such as time with a preferred activity, teacher or peer, for meeting daily or weekly goals. If a daily point goal was not met, the facilitator provided re-teaching of expectations and supportive encouragement to the student.
4. Students were prompted by the facilitator to take the DPR home to receive additional feedback from a parent or guardian and then return the signed DPR to school the following day. If the student did not return the signed DPR, re-teaching and encouragement for following this procedure was provided, but no point loss or punitive responses occurred.
5. Intervention facilitators entered student percentage of DPR points earned into a data spreadsheet. The school student-support team reviewed participant data on a regular basis to monitor student progress during the intervention.

Fidelity of Implementation (FOI)

Previous investigations have relied on (a) review of permanent products such as the student DPR (Hawken et al., 2011; Hawken & Horner, 2003), (b) team-meeting report of implementation (Hawken et al., 2011; Todd et al., 2008), (c) self-report implementation checklists (Filter et al., 2007), and/or (d) observation checklists (Campbell & Anderson, 2011; Fairbanks et al., 2007) for monitoring fidelity of BEP implementation. Following the example of previous investigations, this study included a

direct method of assessment by using an observation checklist to monitor implementation of four intervention components (i.e., daily check-in, regular teacher feedback, daily check-out, and data entry). An indirect technique, product review, was used to assess the parent component of intervention implementation.

Observation checklist. Determining the extent to which school personnel accurately delivered four of the intervention components was completed using an observation checklist (see Appendix E). During fidelity observations, data collectors circled "Y" for yes or "N" for no to indicate the presence or absence of each feature on the checklist. At the end of each observation, the total number of features observed was divided by the total number of features possible and then multiplied by 100 to calculate an overall percentage of intervention implementation. Implementation also was monitored for each intervention component (i.e., check-in, regular teacher feedback, check-out, and data entry). For these scores the number of features implemented divided by the number possible within each component were multiplied by 100 and resulted with a percentage of component implementation. Observations were conducted separately, using the checklist, for each student. Scores were maintained in a data collection spreadsheet. Results for each student are presented in the next chapter.

If implementation of the check-in, teacher feedback, check-out, or data entry components fell below 80% for any student the researcher provided follow up instruction for participating adults. Implementation did not fall below 80% for a majority of components (i.e., check-in. check-out, and data collection). However, one classroom teacher (A) had difficulty correctly providing the regular teacher feedback. In this case the researcher gave additional coaching to the classroom teacher. Specifically, each time

a feedback component was observed the researcher provided verbal and/or written feedback to the classroom teacher. Researcher comments highlighted at least one aspect of implementation the classroom teacher delivered correctly. In addition, if there were areas of concern the researcher provided suggestions for adjusting implementation. Written and verbal feedback was insufficient for addressing the issue. Next, during one of the teacher's planning periods the researcher provided additional instruction, which included modeling examples of responding positively and delivering corrective feedback rather than negative and/or non-specific statements. As a last option the building principal was invited to observe in the classroom and provide feedback to the teacher about her level of implementation.

The second classroom teacher (B) also required a booster training session. Although this teacher adhered to procedures outlined on the fidelity checklist (i.e., delivered positive statement during each feedback opportunity and also delivered corrective when applicable) she added a feedback strategy that was not identified as a component of the intervention. The booster session for this teacher included individual re-teaching and modeling provided by the researcher. The impact of the implementation error on student performance is discussed further in subsequent chapters.

Product review. Consistent with previous investigations of the BEP product review was used to assess parent implementation. In this example a "parent report" was provided each day for each student's family. The parent report included the percentage of DPR points earned by the student, a place for the BEP facilitator to write comments about the student's day, and a line for parents to provide their signature. Students were

instructed to take the report home, ask a family member to review and sign the report then return it to the BEP facilitator the following day during morning check-in.

Product review for this intervention component consisted of examining all returned parent reports for absence or presence of a parent signature. Specifically, the researcher collected and reviewed parent reports weekly. Data were recorded as 1 for returned with signature or 0 to indicate the report was not returned and/or did not have a signature. Scores for each participant were documented in a data collection spreadsheet.

Parent implementation fell below 80 percent for two of the three participants (students 2 and 3). In each case one of the BEP facilitators provided one re-teaching opportunity that included a phone call or in-person conversation to remind families of participation procedures and to address questions. At the end of the study the total number of returned, signed reports was divided by the total number of student DPRs and multiplied by 100 to calculate a percentage of parent participation for each student.

Summary

Table 6 provides a summary of the purpose and timeframe for all measures included in the investigation and Table 7 provides a summary of data review techniques. These strategies were selected to address each of the three research questions and are aligned with examples provided by existing studies of the BEP (Campbell & Anderson, 2008; Fairbanks et al., 2007; McIntosh et al., 2009).

Table 6

Summary of Measures

Method	Purpose	Timeframe
BASC-2 BESS *BASC-2 Behavioral and Emotional Screening System* **(Kamphaus & Reynolds, 2007)**	Identified students at risk for emotional and/or behavioral problems.	Administered once, prior to intervention, with classroom teachers of all students, grades K-2 in the selected school site.
BASC-2 *Behavior Assessment System for Children-Second Edition* (Reynolds & Kamphaus, 2004)	***Data for research question 1.*** System to complete individual ratings of student maladaptive and adaptive behaviors. Pre-intervention and post-intervention measure.	Administered once, prior to intervention, with teachers of children who scored in the *Elevated* risk range during the universal screening stage. Administered a second time, after intervention, with teachers of students who participated in the BEP intervention.
FACTS *Functional Assessment Checklist for Teachers and Staff* (March et al., 2000)	Structured interview for collecting information about setting events, antecedents, and consequences associated with student behavior.	Administered once, prior to intervention with classroom teachers of children with parental consent to participate in the study.
DOR *Direct Observational Recording* (Tawney & Gast, 1984)	***Data for research question 2.*** Continuous measure of student academic engaged behavior.	Each student was observed approximately 15 times during baseline and a minimum of 5 times during the treatment condition.
Fidelity of Implementation *Observation Checklist* *Product Review*	Lists steps to be completed by intervention facilitators and classroom teachers during implementation of the BEP. Verification of parent participation.	Observations using the checklist of required steps occurred a minimum of 4 times per student during the intervention phase. Parent Reports returned for each participant were reviewed at the conclusion of the study.
BEP Acceptability Questionnaire - modified (Crone, Hawken, & Horner, 2010)	***Data for research question 3.*** Measure for assessing participant perceptions of the intervention.	Administered once, after intervention, with students, parents, and teachers who participated in the intervention.

Data review included: (a) description of change in teacher ratings of student behavior across time (i.e., pre-intervention to post-intervention), (b) visual inspection of graphed student data, and (c) description of treatment acceptability ratings.

Table 7

Summary of Data Review Procedures

Dependent Variables	**Review Procedures**
Teacher ratings of student maladaptive behavior • Anxiety • Depression • Somatization • Internalizing Problems	Description of changes in classroom teacher ratings of student behavior from pre-intervention to post-intervention using the BASC-2 scale and composite scores.
Direct observational recording of student behavior • Academic Engaged Time	Visual inspection of data points for change in level trend, and stability from baseline through intervention.
BEP acceptability • Students • Parents • Classroom Teachers	Description of scores collected from each group of respondents.

CHAPTER III

RESULTS

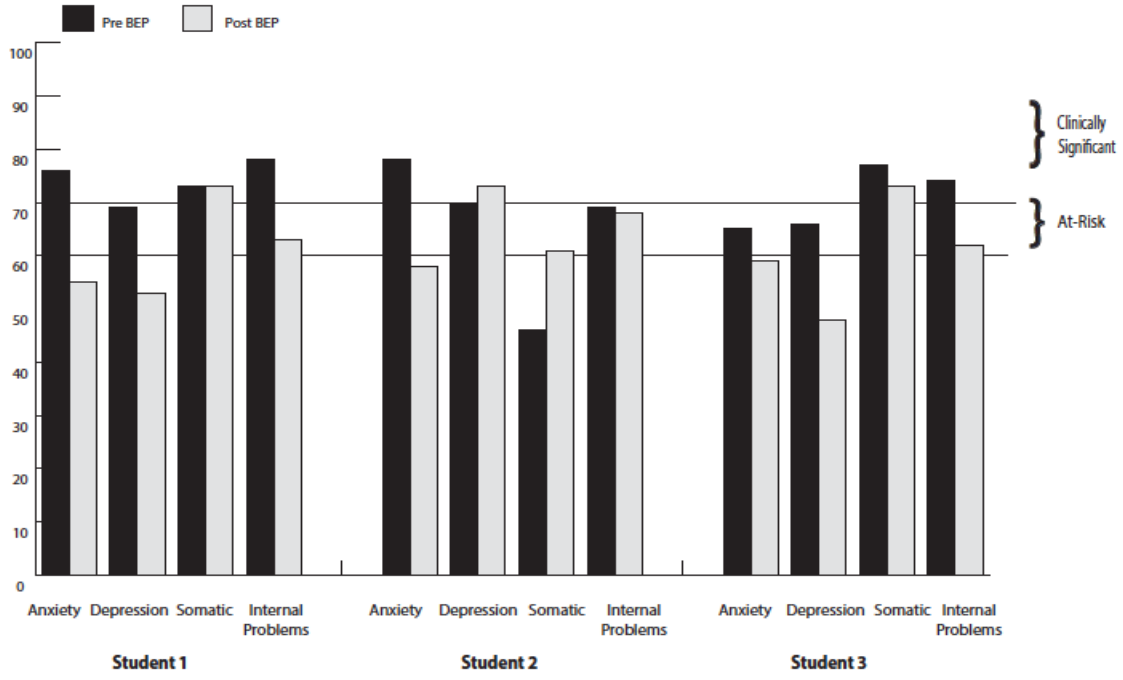
Descriptive data for teacher ratings of student internalizing problems were collected pre and post intervention. A single-subject multiple baseline design was used to examine effects of the Behavior Education Program (BEP) on student academic engagement. Finally, stakeholder perceptions of intervention acceptability and fidelity of implementation were measured. Results are described according to each research question followed by a summary of the implementation integrity measures.

Research Question 1

What was the relationship between use of the BEP treatment and changes in teacher ratings of student internalizing problems? Previous investigations of the BEP that incorporated behavior-rating scales to measure student outcomes have occurred with large enough samples that effect size could be calculated (e.g., McIntosh et al., 2009; Simonsen et al., 2011). However, this project included only a small number of participants as was appropriate for a single subject design. Thus, descriptive summaries of teacher pre- and post-ratings were graphed to depict the clinical impact of the BEP on related internalizing problems. While statistical significance cannot be determined, the implementation of the BEP was related to several decreases in risk from high to low and in some cases to within normative range (see Figure 2).

Figure 2

Teacher Ratings of Student Internalizing Problems Before and After the BEP Intervention



Results for Student 1 showed reductions in teacher rating of maladaptive behavior for the anxiety and depression scales and also for the internalizing composite after the BEP was implemented. Teacher rating of anxiety decreased from a clinically significant level to a score within the normal range. Teacher rating of student depression decreased from at-risk to normal after participation in the BEP. Finally, the internalizing composite score also decreased from clinically significant to at-risk. There was no change in score for the somatic behaviors scale, which remained in the at-risk range.

For Student 2 teacher rating of anxiety decreased from the clinically significant range to a normal level. However, data also indicated an increase in teacher ratings of depression and somatic complaints.

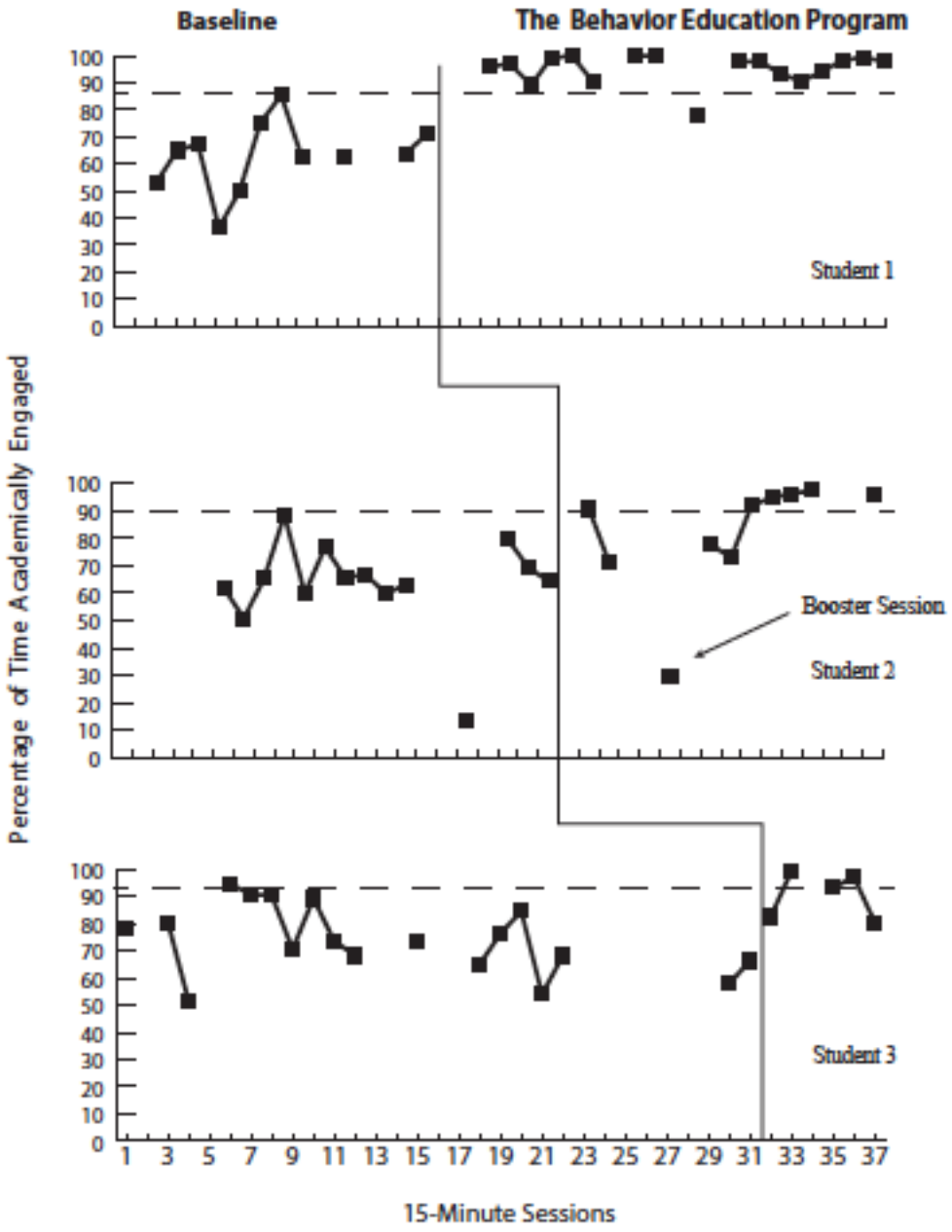
Student 3's data indicated score reductions from at-risk to normal for the anxiety and depression scales, while teacher rating of somatization showed a slight decrease but remained in the clinically significant range. The internalizing problems composite score decreased from clinically significant to a near normal level after participation in the BEP.

Research Question 2

What was the relationship between use of the BEP and changes in observed student academic engaged time (AET)? Direct observation data were plotted within a multiple baseline graph and visually analyzed for changes in trend, level and variability across baseline and intervention phases (Tawney & Gast, 1984). Overall, clear trend and level changes are evident for two of the three subjects. For the third subject, a slight level change is noted. In addition, variability of academic engaged time reduced for all students once intervention was put in place (see Figure 3). Results for each subject are further described below.

Figure 3

Percentage of Time Students were Academically Engaged During 15-Minute Observations of Language Arts Instruction Before and Throughout BEP Participation



Note: Dashed line represents mean AET for same gender peers observed in each classroom.

Student 1. During baseline conditions, data for Student 1 were variable with an increasing trend. Variability was detected by calculating the percentage of baseline data points that fell within a 15% range of the mean performance level. Data from this student did not meet the 80% threshold for stability suggested by Tawney and Gast (1984). In addition, analysis of change within the baseline condition showed improvement (18%) in the direction of desired change from the first data point to the last data point. This increasing trend was verified by drawing a split-middle line of progress (Tawney & Gast, 1984).

Although baseline data were variable and showed a slight increasing trend, the decision to intervene was made because mean performance levels for the target student were substantially lower than that of same grade / gender peers. Mean baseline level of AET for Student 1 was 63% (range = 36% - 85%; median 64%) across 11 sessions, spanning a period of more than two school weeks and was 24% lower than the mean AET of typical peers (mean= 87%; range = 55% - 99%; median = 85%) that was measured across 14 observations.

A number of changes were noted between baseline and intervention for Student 1. First, upon implementation of the BEP, the student demonstrated an immediate increase in level of performance. The change in level between conditions increased from 71% AET during the last baseline observation to 96% AET during the first observation after the BEP was introduced. Second, the behavior change for Student 1 occurred in a relatively short amount of time. The latency between termination of baseline conditions and the first observation during intervention was two school days. Thus, a change in behavior was noted after only two days of treatment. Third, data are notably stable

during intervention when compared with baseline. Specifically, 94% of the intervention data values were within a 15% range of the mean level of performance, which surpassed the Tawney and Gast (1984) recommendation of 80-90% as evidence of stability. Finally, the split middle line of progress showed a flat trend with consistently high performance that was verified by 94% non-overlapping data points. Mean AET during the BEP intervention was 95% (range = 78% - 100%; median = 98%), which exceeded the peer mean AET (87%) and represented a 32% increase for Student 1 from baseline.

Student 2. Data for Student 2 also were variable during the baseline phase. Average academic engagement was 65% of the time (range 13% - 88%) and only 64% of the baseline points fell within a 15% range of the mean. Level change within the baseline condition was limited (2% increase) and the split middle line of progress showed no systematic increasing or decreasing trend. Similar to Student 1 the decision to intervene even though baseline data were variable was made because mean AET for Student 2 was 26% lower than that of typical peers and the data showed no clear improving trend over a period of 14 baseline observations that spanned more than three school weeks.

Student 2's data showed clear and marked changes associated with introduction of the BEP. An immediate change in level of performance between the last baseline observation (64% AET) and the first intervention observation (91%) was noted. In addition the latency period between termination of baseline and the first intervention observation was one school day, indicating change in behavior occurred quickly. Next, although data showed initial variability, including one outlier session of extremely low performance, behavior became more stable and showed an increasing trend over time with continued use of the intervention. Overall percentage of non-overlapping data

points was 60%, however, for the last five data points alone this increased to 100% non-overlapping data in comparison to his baseline data. Finally, mean percentage of AET for Student 2 during intervention was 96% (range = 30% - 97%; median = 91.5%), which showed academic engaged time comparable with the peer mean AET of 91% (range = 66% - 100%; median 94%).

Student 3. Baseline data for Student 3 were variable, but showed a decreasing trend. Only 33% of the baseline data points fell within a 15% range of the mean, which did not meet criteria for stability. Change within condition data indicated a decrease of 12% from beginning to end of baseline and this trend was verified by the split middle line of progress. Overall Student 3 demonstrated a higher mean percentage of AET during baseline, 74% (range = 51% - 94%), than the other two participants but was still 18% lower than the mean AET demonstrated by his peers 92% (range = 84% - 99%).

Once the intervention began, data showed an immediate increase. The last observation during baseline for Student 3 was 66% versus 83% during the first observation of the intervention phase. Though the change in behavior from baseline to intervention was not as strong as the other participants, the latency period for Student 3 was shorter with observation sessions beginning on the first day of the BEP intervention. In addition Student 3 had fewer days of intervention. Mean AET during the BEP was 91% which represents a 17% improvement over the baseline mean and is close to the peer mean which was 92% AET. However, the split middle line of progress indicated a decreasing trend in performance and percentage of non-overlapping data points was less (40%) than that of Students 1 and 2.

Inter-Observer Agreement. Inter-observer agreement was checked frequently throughout the investigation during both the baseline and intervention phases. A frequency ratio method was used to compare total academic engaged time (AET) per session collected by two independent observers. Although there are limitations associated with the frequency ratio, it is an appropriate technique for duration data, is commonly used, and serves as an adequate guideline if the two observers agree within a 10 to 20 percent margin of error (Kazdin, 1982). In this case agreement was consistently high (mean > 90%) across all students in both baseline and treatment conditions. Inter-observer data was collected for 28% of the sessions and average agreement for baseline sessions was 93% and 95% during intervention phase observations. Table 8 provides a summary of the results.

Table 8

Inter-observer Agreement Results Across Baseline and Treatment Conditions

Agreement	Student 1	Student 2	Student 3	Overall
# IOA Checks / # Observations	8 / 28 = 28.57%	6 / 24 = 25%	7 / 23 = 30.43%	21 / 75 = 28%
# Baseline Checks	4	4	5	13
# Intervention Checks	4	2	2	8
Baseline % agreement	Avg. = 94% Range = 89 – 93%	Avg. = 90% Range = 78 – 98%	Avg. = 93% Range = 87- 97%	Avg. = 93% Range = 78 – 98%
Intervention % agreement	Avg.= 95% Range = 87 - 100%	Avg. = 97% Range = 95 - 99%	Avg. = 92% Range = 88 - 97%	Avg. = 95% Range = 87 - 100%

Research Question 3

How did student, parent and teacher participants rate acceptability of the BEP treatment? Results for treatment acceptability in this study were examined by reviewing questionnaire scores from each student, parent and teacher participant. Respondents for the adapted version of the *BEP Acceptability Questionnaire* (Crone et al., 2010) included three students and three parents. In addition, Classroom Teacher A completed acceptability items specific to Student 1 and Student 3 while Classroom Teacher B responded to the acceptability items for Student 2. Possible scores ranged from one to six for each item with a total possible score of 30. Higher scores indicated more favorable perceptions of the intervention. Results are organized according to acceptability indicators within the questionnaire which included: (a) improved behavior at school, (b) improved academic performance (c) was easy to participate, (d) was worth the time and effort to implement, and (e) would be recommended to others for addressing issues similar to those of students in this study. In addition, results are interpreted as low, medium, or high according to score. Specifically, scores of one to two are viewed as "low", while scores of three or four are considered in the "medium" range, followed by scores of five or six taken as "high". Table 9 provides individual scores from each participant across the five questionnaire items and also includes a summary score.

Table 9

Student, Parent, and Teacher Acceptability Scores for the Behavior Education Program

Participants	Improves Behavior	Improves Academic Performance	Easy to Participate	Worth Time and Effort	Would Recommend for Others	Total Score
Student 1	6	4	5	6	4	25
Student 2	6	2	6	6	6	26
Student 3	6	5	5	4	6	26
Parent 1	3	3	6	3	3	18
Parent 2	5	5	6	6	6	28
Parent 3	4	*	6	6	6	*22/24
Teacher A	1	1	1	2	1	6
Teacher B	2	4	6	5	2	19
Teacher A	3	2	2	1	1	9

Note: *Parent 3 did not provide a response for one item. Total possible score for this parent was 24.

Student perceptions. Overall each of the three student participants rated the BEP intervention positively. Individual item scores from students are in the top-half range (i.e., 4 or higher) across a majority of indicators. Additionally, one item received the highest possible rating from all three students (i.e., improves behavior). Two other indicators also received a rating of 6 from two out of three students. Improved academic performance was the only indicator scored in the bottom-half range (i.e. 3 or lower), which was rated by Student 2.

Parent perceptions. Results from the acceptability questionnaire showed two parents had a favorable impression of the BEP as evidenced by scores in the top-half range for a majority of indicators (Note parent 2 did not provide any response for the academic performance item). All respondents scored ease of participation using the highest rating. Generally Parent 1 viewed the BEP less favorably than did the other two parents, which was demonstrated by bottom-half scores for four of the five items rated.

Teacher perceptions. Teacher A (2nd grade) completed two acceptability questionnaires, one for each of the student participants in her classroom (i.e., Student 1 and Student 3). Teacher B (Kindergarten) completed ratings applicable for Student 2. Overall, Teacher B rated the BEP more positively than did Teacher A as indicated by top-half scores for three of the five items. Teacher A rated all items with bottom-half scores for both students. Teacher A indicated slightly higher acceptability of the BEP for Student 3, but gave the lowest possible rating on four of the five indicators when scoring for Student 1. Scores from both teachers showed limited effects of the BEP on improved behavior. In addition neither teacher indicated strong recommendation for using the treatment with other students who demonstrate similar behavioral concerns.

Intervention Fidelity

Fidelity of Implementation (FOI) was documented individually for each of the three participants. During the intervention phase, data collectors conducted four observations per student using a checklist of required implementation procedures and then calculated component percentages of implementation for a) check-in, b) regular teacher feedback, c) check-out, and d) data collection procedures. In addition, a second measure, product review, was used to monitor parent implementation of the home

component. Finally, an overall percentage of implementation, that included each of the five intervention components, also was calculated for each student.

Table 10 shows items from the implementation checklist with results for each student. Results from the product review for parent implementation are also documented in Table 10. Data indicated the BEP facilitators delivered the check-in, check-out, and data entry components with high fidelity. Results showed Classroom Teacher A implemented the regular feedback component with moderately low levels of fidelity for Student 1, but implemented with greater fidelity for Student 3. Classroom Teacher B implemented the feedback component for Student 2 with 100% fidelity according to checklist procedures however, there was an unanticipated implementation error that was not depicted in the implementation checklist, but that required correction. Overall, parent implementation was low and ranged from 0% to 69% across the three students. Agreement data for the fidelity observations were collected twice per student across two independent observers. Agreement for presence or absence of each checklist item was 100% for every observation.

Table 10

Fidelity of BEP Implementation

Intervention Components	Student 1	Student 2	Student 3	Overall
# Observations Conducted / # Days IV	4 / 26	4/ 20	4 / 5	12 / 51
% Intervention Days Observed =	15%	40%	80%	24%
# Observations w/ Reliability	2 / 4	2 / 4	2 / 4	6 / 12
I. Morning Check-in • Student checked in. • Facilitator provided DPR • Facilitator provided reminder for expectations, skills, & daily goal				
% Component Implementation =	100%	100%	100%	100%
II. Regular Teacher Feedback • Teacher prompted student to come to or mark chart. • Teacher provided positive specific feedback and corrective feedback • Teacher awarded points.				
% Component Implementation =	67%	100%	100%	100%
III. Daily Check-out • Student checked out (facilitator or teacher provided reminder if needed). • DPR points were totaled and documented. • Facilitator provided verbal performance feedback.				
% Component Implementation =	100%	100%	100%	100%
IV. Data Collection & Monitoring • Facilitator calculated percentage of points earned. • Facilitator entered DPR percentage into spreadsheet.				
% Component Implementation =	100%	100%	100%	100%
V. Parent Participation • Parent signed progress report. Student returned it to school.	18/26	0/20	1/5	18/51
% Component Implementation =	69%	0%	20%	30%
Overall Percentage of Implementation	83%	69%	86%	

CHAPTER IV

DISCUSSION

Currently large numbers of children experience mental health challenges. Anxiety and mood disorders are among the most frequently experienced conditions and age of onset is early, during the school age years (Merikangas et al., 2010). Few children actually receive sufficient services for treating or remediating these conditions, but when treatment is provided it most commonly occurs in school settings (Rones & Hoagwood, 2000). Approximately one in every three to four students experience a mental disorder which leaves schools confronted with as many as 25-30% of the children they serve in need of mental health support, but limited resources for addressing these concerns (Merikangas et al., 2010). One research-based intervention that is commonly implemented in school settings and by school personnel is the Behavior Education Program (BEP). Studies of the BEP have shown this treatment is associated with reductions in problem behaviors and increases in appropriate behaviors among elementary and middle school level students. Historically, participants have rated the BEP as a valuable intervention that is worth the time and effort to provide. In addition, previous work shows the BEP has been implemented with high levels of fidelity when provided by school personnel in typical educational settings. Unfortunately, to date, the impact of the BEP on outcomes for young children experiencing internalizing problems that may lead to later anxiety or mood disorders has not been determined. Thus, this study extended the existing research base by examining the effects of the BEP on student internalizing problems and academic functioning. In addition, participant perceptions of the BEP were collected.

This chapter provides an explanation of major findings from the current investigation. Specifically, outcomes are discussed in relation to previous studies of the BEP, additions to the existing knowledge base are examined, and limitations of the study are presented. Finally, implications for both practice and research researchers are highlighted.

Major Findings

To what extent did teacher ratings of student anxiety, depression, somatization, and internalizing problems change after student participation in the BEP? In the current study teacher perceptions of student internalizing problems improved after the BEP was implemented. First, levels of anxiety, as measured by the Behavior Assessment System for Children – 2 (BASC-2; Reynolds & Kamphaus, 2004), reduced to a normal range for all participants. In fact, for two of the three participants anxiety scores decreased from a clinically significant level.

Second, the BEP intervention also was associated with improved teacher perceptions about student depression. Scores on the depression scale of the BASC-2 decreased to a level within the normal range for two of the student participants after the BEP was provided.

Third, teacher ratings on the internalizing problems composite of the BASC-2 also improved for two of the three participants. Scores for students one and three reduced from a clinically significant range to near normal levels after the BEP was provided. For a third participant (i.e., Student 2) only a slight decrease after intervention was noted.

To date few studies of the BEP have included emotional-behavioral rating scales to measure teacher perception of problems before and after the intervention (McIntosh et

al., 2009; Simonsen et al., 2011). However, findings from the present study correspond with results reported by McIntosh and colleagues (2009) which also showed improved perceptions of student problems after participating in a BEP intervention. Together the findings both from McIntosh (2009) and the present investigation are important because of the association with promotion of emotional health among children.

A foundational principle related to effective supports for children with internalizing problems that was introduced in the first chapter is appropriately revisited here. Internalizing problems are believed to develop within the context of a negative feedback cycle that incorporates a child's feelings, thoughts, and behaviors (Stormont et al., 2012). An important underpinning is children's perceptions of themselves (i.e., feelings and thoughts) are shaped, in part, by how they believe others view them. This means individuals in a child's environment such as parents, siblings, peers, and teachers play a powerful role in whether a negative feedback cycle is established and maintained or the extent to which it is interrupted or altered toward a more adaptive pattern.

Related to the BEP, each component of the intervention facilitates opportunities to alter a child's perception of self because positive feedback from school adults is strategically scheduled. In particular, when the adult feedback is primarily positive, supportively corrective, and includes encouragement and praise for making progress toward goals it serves as a key protective factor against development of negative cognitions, avoidance behaviors, and or feelings of helplessness that are frequently associated with children who experience internalizing problems.

Improved teacher perceptions of student problems while participating in the BEP may have subsequent effects on how students view themselves – further serving as a

protective factor for interrupting the interactions of negative feelings, thoughts, and behaviors. One implication is that adults in a school environment, where children spend a majority of their day, have powerful opportunity for positively or negatively impacting children's developing views of efficacy and competence. Requirements of regular and structured feedback opportunities that are embedded within the BEP treatment may serves as an effective system for prompting school adults to fulfill the role of positive impact.

To what extent was use of the BEP associated with changes in observed academic engaged time when students with elevated levels internalizing problems participated in the intervention? In addition to improved perceptions of student internalizing problems, results of this study also showed a relationship between the BEP and increased levels of academic engaged time. For all students variability of poor performance was reduced and in two cases children showed clear increases in levels of academic engagement as soon as the BEP intervention began that were maintained by the end of the intervention period. More specifically, for Student 1 academic engaged time increased to a higher level than demonstrated by the average level of her peers. In addition, her increased level of engagement remained stable over the duration of the study.

In the second example, an immediate increase in academic engaged time occurred for Student 2 when the BEP began, that was followed by variable performance with an extreme decrease. This initial variability was associated with an implementation error. Once the classroom teacher received a booster training session to increase fidelity of her feedback practices a direct impact was evident and resulted with increased student

performance. Similar to the first student, the second child also demonstrated academic engaged time at a level comparable to the averaged level of peers and maintained this performance by the end of the investigation.

Last, changes in academic engaged time were less conclusive for student three. Results for this participant showed an initial increase in academic engaged time, but this change was not maintained through the last observation session. Exposure to the intervention for Student 3 was substantially less than that provided in the first two examples (i.e., five intervention days versus 20 and 26 intervention days for the other two children). It was near the end of the school year before Student 3 was enrolled in the BEP, thus the limited number of intervention days might have impacted his opportunity to demonstrate more consistent performance.

Overall, student academic engaged time was influenced when the BEP was introduced. This is an important change because students who experience early academic performance deficits are at greater risk for future internalizing problems, depression in particular (Herman et al., 2008). In this example students were already participating in a daily academic intervention however, that intervention focused exclusively on reading skills and did not provide explicit instruction for social or behavioral competencies that would facilitate increased academic performance. Nor did academic support alone appear to sufficiently address the social-emotional problems of children in this study that were demonstrated by teacher BASC-2 ratings.

When the BEP, which provided prompts and feedback for staying on task, completing work assignments, and seeking assistance appropriately, was implemented it increased the likelihood students would acquire social-emotional-behavioral skills that

facilitate academic engagement. In turn, greater engagement increased potential for improved learning and performance, which serve as protective factors. Increased academic performance may prevent development of negative feelings, thoughts, and behaviors that lead to later disorder (Herman et al., 2008; Stormont et al., 2012).

Congruent with existing research this study demonstrated effects of the BEP on changes in observed student behavior. In this case direct observation confirmed, at least for Students 1 and 2 that academic engaged time improved when the BEP intervention was provided. These results are similar to those found in other studies that examined academic engaged time or on-task behaviors (Campbell & Anderson, 2011; Hawken & Horner, 2003).

Was use of the BEP, when implemented for children with elevated levels of internalizing problems, associated with favorable social validity ratings as demonstrated in previous research? In this example outcomes for intervention acceptability were mixed. Generally students rated the BEP more favorably than did parents or classroom teachers.

Student social validity ratings. All of the student participants indicated they believed participation in the BEP improved their behavior. In addition, the children gave medium (i.e., 3 or 4) to high (i.e., 5 or 6) ratings for items related to worth time and effort and would recommend for other students. However, results from student scores did not show they perceived a relationship between participation in the BEP and improved academic performance. Students rated the academic performance item inconsistently. Students 1 and 3, who were each at the end of their second grade year, rated improved academic performance higher than did Student 2 who scored this item very low (i.e., 2

using a 6-point scale). However, Student 2, who provided the lowest rating, also was the youngest student and it could be that understanding of a relationship between the BEP and improvements in school work (i.e., academic performance) was beyond his developmental level.

Although not as thoroughly examined as other aspects of the BEP intervention some researchers have collected data regarding student perceptions of the treatment (Filter et al., 2007; Hawken et al., 2007; Lane et al., 2012). Results from the present study are consistent with results of previous investigations in which students have rated the BEP favorably (Hawken & Horner, 2003; Hawken et al., 2007; Hawken et al., 2011). At the end of the intervention student participants in this investigation provided high ratings for a majority of treatment acceptability items. Even Student 2, who reported concerns during initial stages of the intervention, indicated positive ratings after Classroom Teacher B altered her implementation practices. Student positive perceptions of the BEP in this study are consistent with the results of previous work.

Parent social validity ratings. Parents of children who participated in the BEP generally rated acceptability items in the medium to high range (i.e., score of 3, 4, 5, or 6). For example, all parents rated "easy to participate" in the high range (i.e., score of 6), which was particularly interesting considering the overall low rates of parent participation. Specifically, two of the three parents demonstrated little or no participation, yet rated "ease of participation" as high.

For items "worth time and effort" and "would recommend to others" Parent 1, who actually had the highest rate of participation (69%), rated both of these indicators

slightly lower than did Parents 2 and 3 who each demonstrated fewer instances of participation (i.e., 0% and 20%).

Regarding impact on behavioral performance, although it was not rated poorly, parents had mixed perceptions about the impact of the BEP on their child's behavior at school. Two parents rated this item in the medium range (i.e., score of 3 or 4), while one parent rated this item as high (i.e., 5 or 6). Given that none of the participating children received any type of documented behavioral disciplinary referral to the office or within their classrooms either before or during the BEP intervention, it is possible parents did not view their child's behavior at school as problematic and accordingly did not see a need for behavioral improvements.

Parents also reported inconsistently with regard to their perceptions of improved academic performance of their child during the BEP. The mother of Student 1 rated academic improvements in the medium range while Parent 2 perceived the BEP as having greater impact on her child's academic performance and rated it high (i.e., 5). Parent 3 did not provide a response for this item.

Teacher social validity ratings. Most surprising perhaps was the acceptability data provided by the two classroom teachers. Teacher A, who responded to questionnaire items associated with Students 1 and 3, generally reported most elements in the low range with scores of one or two. In fact, for Student 1 the only item Classroom Teacher A rated higher than a score of one was "worth the time and effort", which was still in the low range with a rating of two. Classroom Teacher A viewed the BEP as slightly more acceptable for her other participant, but only on one item, which was "improves behavior

at school", which was scored in the medium range (i.e., 3). All other ratings associated with Student 3 were in the low range (i.e., scores of 1 or 2).

Classroom Teacher B, who responded to acceptability items for Student 2 perceived the BEP more favorably than did Teacher A. Although Classroom Teacher B did not believe behavior had improved nor would she recommend the BEP for other students with similar concerns, as demonstrated by ratings in the low range for both items, she did perceive improvements in academic performance after Student 2 began participating in the intervention. In addition, Classroom Teacher B reported high ratings for "easy to participate" and "worth the time and effort" for Student 2. Finally, a narrative response included in the comment section of the acceptability questionnaire provided additional insight about the BEP from Classroom Teacher B. She reported,

> "I feel the BEP program is beneficial for some students. (*student name omitted*)'s [problem] behaviors seemed to increase because he sees more negatives than positives. It seemed as though he started to become distant from any type of outcome near the end of the program. He enjoyed the visits with the check-in/check-out teachers, but didn't seem to have long-lasting benefits from its purpose. I feel like this is a good program to start with, to see how it will affect each individual child, but it is not meant for all".

Overall, results from the teacher social validity ratings of the BEP in this investigation differed from those reported in previous investigations. Teacher raters in this case (n = 2) rated the BEP considerably lower than teacher participants in previous studies. One possible explanation for the differences in acceptability may be associated with the students who were selected for intervention. In past research for the BEP student participants were identified because of externalizing behavior problems (e.g., out of seat, talking out, physical aggression, fighting, talking back, non-compliance, and off-task beahviors). Externalizing behaviors, by definition, are directed outwardly and tend

to disrupt teacher instruction as well as the learning of other students and students displaying these behaviors. Teachers who implement the BEP for students with externalizing behaviors are perhaps more likely to notice an observable impact on behavioral performance and thus rate the intervention as highly effective for improving behavior.

In contrast, the type of improvements for students with internalizing problems are perhaps more subtle, though arguably equally important. Interestingly, implementation data collected in this study showed challenges associated with the teacher feedback component of the intervention. Providing positive feedback for behaviors listed on the student DPR, in this example, may have been more challenging, in part, because the behaviors listed were more difficult to notice. In the current example both of the teacher participants also provided the BEP for other students, who were not part of the research study, but were identified for intervention because of repeated office discipline referrals and or minor classroom behavior infractions. Teachers may not believe they observed actual improved behavior from the research study students and/or teachers may not have valued the type of improvement that occurred if these changes were considered in light of behavioral changes that occurred for students with externalizing problems that also participated in the program.

Fidelity of Implementation. Although fidelity of BEP implementation was not explicitly posed as a question for this investigation it was identified as an important outcome from pervious studies. Results from the present study cannot be accurately interpreted without also considering the extent to which each intervention agent was able

to successfully provide the treatment for student participants. Accordingly, BEP implementation, as provided individually for each student, is reviewed and discussed.

Student 1. Student 1 received each of the daily check-in, check-out, and data collection components from the BEP facilitators according to features listed on the observation checklist used during fidelity monitoring procedures. Thus implementation for three of the five BEP components, as outlined during facilitator training sessions, was delivered with 100% accuracy. However, for two of the required BEP components implementation was much lower.

First, the regular teacher feedback was provided with 67% accuracy when data collectors monitored presence or absence of items from the observation checklist. To accurately provide this component, according to procedures discussed during training sessions, the classroom teacher was expected to a) initiate the feedback session by approaching the student, reminding the student, and/or instructing the student to mark their chart and then raise a hand for the teacher to review the DPR; b) provide positive, specific feedback and, only if necessary, include corrective instruction when the student did not meet expectations during a class period; and c) award points by marking one of the provided numbers (i.e., 1, 2, or 3) and then initialing the student's DPR. Teachers were instructed that the BEP was meant to be a positive support. Even if students did not meet any of the listed behavioral expectations during a particular class period they were to receive verbal praise for participating in the feedback session with the teacher. In addition, if the teacher determined corrective instruction was necessary they were asked to provide this in a neutral tone after thanking the child for talking with the teacher about the situation.

Regarding Student 1, Classroom Teacher A inconsistently provided the positive, specific feedback. Instead her feedback sessions tended not to include any verbal praise even if the student received the maximum points for a particular behavior during a class period. In addition, sometimes when the teacher did not award full points the feedback was negative (i.e., non-specific) rather than corrective (i.e., specific and instructional). Further, oftentimes, even when direct observation data indicated the student was highly engaged, the teacher had difficulty noticing the student's appropriate behavior. Instead, on many occasions, the teacher only remarked to the student if she saw any inappropriate behaviors. Thus, although overall percentage of BEP implementation was adequate (i.e., 83%) Student 1 did not have full access to the regular teacher feedback component implemented according to procedures provided during teacher training sessions.

Second, in this case, the parent participation component for Student 1 also was less than desired (i.e., 69% of the possible opportunities). Although this outcomes is higher than results related to parent participation in previous investigations of the BEP it is notable that Student 1, who demonstrated the greatest improvement in academic engaged time, received lower overall levels of teacher feedback, and less than desired parent participation.

Student 2. Similarly, Student 2 received full access to the daily check-in, check-out, and data collection components, which were delivered with 100% accuracy by the BEP facilitators, but overall parent participation was low (0% of DPR signed or returned). As with Student 1, there were difficulties associated with accurate implementation of the teacher component for Student 2. Results from the fidelity observations indicated Classroom Teacher B delivered the feedback component as

expected and according to procedures provided in training sessions, which is reflected in the fidelity results (100% accuracy), but during initial implementation, Teacher B added features that were not anticipated. Specifically, during class sessions if Student 2 was noticed to be off-task Teacher A provided him with a specific, corrective reminder about expected behaviors. If Student 2 persisted with misbehavior the teacher delivered a punitive consequence by deducting a point that would have been earned on his DPR. Thus, if Student 2 was reminded more than once about problem behavior during a class activity when his feedback session with the classroom teacher occurred he was awarded the lowest number of points for that rating period. Although reductions in point awards are part of the BEP treatment protocol if student performance does not meet expectations the point loss is meant to occur within the context of the teacher feedback session and be provided in an instructional manner at the end of the class period and accompanied by verbal praise to the student for willingness to discuss the situation (Campbell & Anderson, 2008; Fairbanks et al. 2007, Hawken & Horner, 2003; Hawken et al., 2007; Hawken et al., 2011; Mong et al., 2011).

For Student 2 removal of points prior to the feedback session had a punishing effect and was associated with a steep decline in academic engaged time shortly after the intervention began. In fact, before the implementation error was identified Classroom Teacher B wrote anecdotal notes on the DPR about the student's declining performance, unwillingness to participate, desire to change his DPR points and remarks that he wished he had never started the program. Interestingly, on the majority of DPRs that included a teacher note regarding student reported dislike of the program Student 2 had in fact met his daily goal. Specifically, there were 6 reports that included student comments

recorded by the teacher (i.e., “I wish I never started this”, “I don’t like this thing”, “that should be a three, not a 1”, “I hope there is a 3”, “I hate school”, or “I’m no good”), but only two of the days concluded with the student not meeting his overall point percentage of 80% or more of the total possible points.

Once the implementation problem was detected the BEP facilitator provided a booster training session for the teacher and also for the student. The teacher was reminded that if a point deduction was required it should only occur at the end of the class period, while corrective feedback is provided and accompanied by praise for engaging in the interaction and encouragement for meeting expectations in the next class period. For the student the booster session included instruction, modeling, and practice for accepting corrective feedback. In addition, the BEP facilitator also reviewed accumulated DPRs with the student to remind him how well he was doing overall in the program. Direct observation data that was collected during this time reflects changes in student performance that are associated with changes in implementation. A dramatic drop in engaged time is evident when the teacher was removing points prior to a feedback session, while later a strong increase in engaged time was documented and then maintained after booster training sessions were provided for both the student and the classroom teacher.

Student 3. Fidelity of implementation with Student 3 was 100% across the daily check-in, check-out, and data collection components. Similar to Student 2, implementation of the parent component for Student 3 also was low (two out of five DPRs signed and returned). However, in contrast with Student 1, Classroom Teacher A, who also was the teacher for Student 3, accurately delivered the regular teacher feedback

sessions for him. Although Student 3 only participated in the BEP for five school days, which occurred during the last two weeks school was in session prior to a summer break, Classroom Teacher A provided positive specific verbal praise during each feedback session that was monitored for fidelity. Thus, although the duration of the BEP was shorter for Student 3 than it was for the other two participants he received teacher feedback that was delivered with higher levels of fidelity than for the other two participants.

Additions to Existing Research

Outcomes from this study refine the existing BEP knowledge base in a number of ways. First, the investigation was conducted with students identified through a systematic screening process who were perceived by their classroom teachers to be experiencing internalizing problems. Prior work with the BEP has focused exclusively on students who demonstrated externalizing behavioral characteristics. While externalizing and internalizing problems often occur concurrently recent prevalence estimates show anxiety and mood disorders as among the most frequent emotional concerns for school-age children (Merikangas et al., 2010). Identifying school-based treatments that are successful in altering the course from onset of symptoms to disorder are in need. Results for students in this example suggest the BEP may be promising as one intervention for improving teacher perceptions about students, which in turn may promote healthy social-emotional development.

Second, data collected throughout this investigation adds to existing evidence for a relationship between the BEP and increases in academic engagement. Although data from this study cannot be interpreted as causal it was notable that academic engaged time

improved – to varying degrees – across the three participants and was comparable to typically developing peers after the BEP was introduced.

Third, the social validity ratings provided by classroom teacher BEP implementers in this example were notably different from the results documented in other studies. Data from this study provides an alternate perspective that merits further investigation.

Finally, classroom teacher implementation of the feedback component also was noteworthy in this investigation. Previous studies have reported high levels of teacher implementation as monitored by observation checklist, permanent product review, implementation checklist with self-assessment, and/or observations of BEP team meetings. Yet, details that specify exactly what should occur in the teacher feedback component are limited (Campbell & Anderson, 2008; Ennis et al., 2012; Filter et al., 2007; Lane et al., 2012; Todd et al., 2008). In the current study three specified procedures were required to accurately deliver the teacher feedback component. While this level of specificity may be ideal for promoting supportive and structured environments that will foster healthy emotional development for children with internalizing problems it did present implementation challenges for the teacher participants, which adds some level of uncertainty about implementation fidelity in typical school settings.

Limitations

Some aspects of the present study present limitations that are worth noting. First, the small number of student participants limits the overall external validity of results from this investigation. Although three children with similar academic and behavioral

characteristics received the same intervention, because the sample was small the extent to which these results are applicable to a larger population of comparable children is unknown. Further research is needed.

Second, several details associated with the student participants that were not systematically addressed may have impacted overall results. For example, as was indicated in the participant descriptions, two of the students (i.e., 2 and 3) were over-age for their grade level. Both boys were retained during at the end of their kindergarten year. This factor might have influenced teacher perceptions of student problems, student academic engaged time, and/or student beliefs about the intervention. Next, the type of instructional activity (e.g., whole group, small group with teacher, peer partner, and/or independent work task) that occurred throughout the observations of academic engaged time during Language Arts class periods was not controlled. Academic engaged time for each student may have varied according to type of instructional activity. For example, during baseline Student 3 demonstrated high rates of AET across several consecutive sessions during which he received one-on-one assistance from Teacher A. However, during independent or peer partner activities the same student displayed substantially lower levels of engagement. Further, the young age of the students presents the possibility that their responses about intervention acceptability were not entirely reliable or valid. The BEP facilitators worked with each student to read items of the acceptability questionnaire and provided assistance with marking responses. However, it is possible students did not fully understand questionnaire items and/or responded favorably because they wanted to please the adult facilitators. Additionally, the limited number of intervention days for Student 3 permits questions about the validity of Teacher A

perceptions of internalizing problems and intervention acceptability results. Outcomes for both measures could be interpreted with greater confidence if the student (and teacher) participated in a greater number of treatment days. Finally, there was a gap in baseline observations for Student 3.

Third, challenges experienced with fidelity of implementation for the teacher feedback component may realistically be associated with the nature of the internalizing problems of the student participants, which presents a novel finding. However, it is also possible that implementation challenges were related to the fact that both classroom teachers were already providing the BEP for other students in their classrooms. When asked to participate in the study classroom teachers may not have realized the research protocol for teacher feedback would differ from their current practices. Considering that teachers were asked to precisely follow the protocol for delivery of feedback, which may have differed from previous training, might have negatively impacted both implementation performance and social validity ratings. It is difficult to determine what contributed most to the teacher's lower ratings for social validity, which in turn limits the validity of those results.

Finally, parent ratings of intervention acceptability should be interpreted with caution. To begin, parent perceptions of student internalizing problems (i.e., BASC-2 scores) were not collected for this investigation. Thus, it is possible parent ratings of the BEP were impacted positively or negatively depending on the extent to which they considered their child to be experiencing any behavioral or academic difficulties. Second, parent participation in the intervention appeared to be low. Specifically two parents in this example did not sign or return student DPRs consistently and the overall

rate of positive feedback parents provided to students is unknown. These factors limit the conclusions that can accurately be drawn from the parent acceptability ratings.

Implications for Practice

Despite the listed limitations, results from this investigation provide enough evidence that further consideration of the BEP for children with internalizing problems is warranted. A number of implications for practice are indicated. First, there is continued need for school-based systems that incorporate a framework for early identification of risk with delivery of intervention supports matched to student need. Given that age of onset for mental health disorders, irrespective of internalizing or externalizing features, occurs during school-age years, providing services to interrupt the trajectory to disorder is optimal. In this investigation the BEP showed impact on teacher perceptions of student problems and also on actual academic engaged behaviors. Continued implementation of the BEP in school settings may be associated with improvement in teacher perceptions of students and with actual student performance.

Second, and related to the first implication, better understanding and awareness of internalizing problems and their potentially detrimental outcomes when left untreated are warranted. In the present study each of the three participants were identified with one or more behavioral scores in the clinically significant range as well as were performing below average in academic achievement, yet were not perceived as high priority for social-behavioral intervention largely because there was a lack of documented discipline issues. Without intervention these students were on-track for increasingly negative outcomes. Many schools are already equipped with a system for collecting behavioral data about students with externalizing attributes. Further consideration for how collect

data that will also identify students with internalizing problems for additional support is critical. In the present study a systematic process that included use of a universal screening instrument and additional individualized assessment (i.e., BASC-2) identified students with clinically significant levels of concern who otherwise would likely have gone unnoticed.

Third, the need for effective interventions that can be accurately delivered for large numbers of students by typical school personnel persists. In this example, the intervention provided was relatively simple, yet implementation errors occurred. Further development of systems to support adult implementation of effective practices is in need.

Implications for Research

First, additional investigation for use of the basic BEP among students with internalizing problems is needed. An important principle of Applied Behavior Analysis applies at this point in that experimental ruling out of the simplest approaches should be pursued prior to reliance on more complex explanations. In the present study the basic , 5-component BEP sufficed for demonstrating behavioral changes for students with internalizing problems. Replications with similar or more powerful results will provide additional direction for further research.

Second, consideration of potentially differential effects of particular intervention components will move work with the BEP forward. Determining impact of each individual part may lead to an equally effective treatment that requires overall less effort. On the other hand, if all components are required to achieve maximal impact, an important next step is determining what is needed for ensuring optimal implementation. For example, how can parent participation be increased and how can teacher accuracy for

delivering the feedback, as specified and without adding other aberrant features, be improved? Campbell and Anderson (2012) provided an initial trial for identifying differential component effect, but more work is needed.

Third, although it was not a primary focus of this investigation the issues surrounding behavioral function and impact of the BEP are far from resolved. Results from previous investigations conducted by March & Horner (2002) as well as McIntosh and colleagues (2009) suggested differential effects of the intervention associated with certain behavioral functions. In both examples the BEP was less effective for students with escape maintained problem behaviors. However, neither of those examples specifically included students who were characterized as having internalizing problems. Outcomes from the current investigation differed in that prior to intervention all three participants were successfully avoiding academic tasks, however improvements in academic engaged time occurred despite escape maintained behavioral patterns. Additional investigation of the relationships between behavioral function and effects of the BEP, particularly when students are identified with internalizing problems, is needed.

Finally, an increased focus on environmental variables, rather than within-child attributes, will add to existing information about effective treatments. As an example, the BEP is one intervention that provides multiple environmental structures that may contribute to a supportive and positive climate for child social-emotional development. The extent to which environments, particularly school settings where children spend a great deal of time, can be altered to serve as a protection against known risk factors may advance prevention science.

Conclusion

The purpose of this study was to demonstrate effects of a commonly implemented school-based intervention, the Behavior Education Program, on teacher perceptions of student internalizing problems, observed academic engaged time, and treatment acceptability according to participating students, parents, and teachers. Results showed reasonable promise of the BEPs impact on improving teacher perceptions of student behavior. In addition, there was initial evidence to suggest the BEP may be associated with improved academic engaged time for students with internalizing problems, which has not been previously examined. Finally, outcomes related to treatment acceptability elicit more questions perhaps than answers, but also indicate an area for continued research. Overall, taken together, the results of this study along with previous research for the BEP move both practitioners and researchers forward in thinking about how best to address the mental health challenges faced by large numbers of school-age children.

Appendix A
Parent Consent Letter

Dear Parent(s) or Guardian,

Your child has been selected by his/her teacher to be considered for a program designed to help children be more successful in school. The purpose of the project is to identify and address potential emotional or behavioral difficulties that may impede academic success. The program is a joint effort between your child's school district and the University of Missouri. The program will run approximately 10 to 12 weeks and includes the following activities:

First, University consultants will provide you and your child's classroom teacher with an emotional and behavioral rating scale, the Behavior Assessment System for Children – Second Edition (BASC-2) to assess adaptive and behavioral characteristics. The BASC-2 includes brief questions or statements that will take approximately 20 minutes for you to complete. Depending on results from the rating instrument your child may be invited to participate in the project.

Students who are selected to participate will be included in a program that is offered by your child's school. The program provides children with an adult who greets them each morning and gives reminders for behavioral expectations. Your child will also receive extra feedback about behavior from his/her classroom teacher at regularly scheduled intervals throughout the school day. At the end of the day your child will revisit the adult who greeted him/her in the morning. The adult will provide positive feedback to your child for behavioral expectations that were met and will provide re-teaching for areas that continue to be a concern. Your child will also have a daily progress report, which allows him/her to have a visual reminder of school expectations and a way to earn daily points. Your child will bring a copy of the progress report home each day so you can review and discuss progress with him/her. Your child's school will use points earned on the daily progress report as a way to monitor progress in the program. You may also periodically receive a graph that shows how your child is doing. Finally, children who meet predetermined daily or weekly goals while participating in the program may receive some small incentive (e.g., sticker, pencil, token) from school personnel to recognize their work and effort.

If you provide written consent for participation and your child is selected it will be necessary for University consultants to observe your child throughout the study, including times when your child's classroom teacher is delivering small group instruction, to assist in measuring the success of the program. In addition, your child's school will share information such as number of office referrals, days absent, and standardized test scores with us to help us determine how well instruction is working. Finally, after the

project ends you and your child's classroom teacher will be asked to complete the BASC-2 rating scale again. In addition the classroom teacher along with you and your child will be asked to complete a brief survey asking what you liked and disliked about the project. Confidentiality is assured during the project. Any information collected through this research project that personally identifies your child will not be voluntarily released or disclosed without your separate consent, except as specifically required by law. All information about your child will be stored without identifying information. We are using an identification numbering system and only MU project staff will have the list of names and identification numbers. In addition, all data will be secured in a locked cabinet at the University of Missouri.

The possible risk associated with the study is that your child might notice he/she is being observed in his/her classroom. The possible benefits from participation in this study are improvements in behavior, social skills, and academic performance. The program is meant to be a positive support and most children enjoy participating.

Your decision whether or not to participate is voluntary. You are free to withdraw from this study at any time without jeopardizing your relationship with the University of Missouri or your child's school. Your child's teacher will keep you informed of progress and project results upon completion. If you have any questions or would like further information please contact: Dr. Tim Lewis (573-882-0561) Project Director, University of Missouri. If you have questions concerning your child's rights as a research subject contact: Research Compliance Office, University of Missouri (573-882-8595).

I give my permission for _____ to be observed during implementation of the project designed to teach children be more successful in school as described above. I further understand that allowing my child to be observed by University staff is voluntary and that I may request data collection to cease at any time.

_____ _____

(Parent/guardian signature) (Date)

**Note:* *Please sign and return one copy of this letter to your child's school. The second copy is provided for you to keep in your records.*

Appendix A
Teacher Consent Letter

Dear Teacher,

The University of Missouri, in collaboration with your school district, is examining the impact of implementing a complete continuum of positive behavior supports on at-risk student social behavior. Based on a student in your classroom meeting eligibility criteria, a small group or Tier II intervention will be implemented and evaluated during the 2011-2012 school year. In order to assist your school team, you, and to gather data on the efficacy of the intervention, we are asking for your consent to observe within your classroom. Observations will primarily focus on student behavior, but we will also be gathering data on your implementation of the targeted intervention. Your participation is voluntary and you are free to withdraw at any time without penalty.

The interventions has already been developed and implemented by your school colleagues. MU's role is to provide training and technical assistance to your school's SW-PBS team and to gather data to monitor student progress and evaluate overall impact. Interventions will be matched to student need and your SWPBS team will explain specific steps for you to implement.

We do not anticipate any risks on your part outside a possible discomfort from having data collectors in your classroom. All data will not bear any direct identification to you or your school, be kept under lock and key, and only reported in aggregate form across classrooms and small groups.

If you have any questions about this study and what is expected of you, you may call Dr. Tim Lewis at 573-882-0561. You may report problems that may result from your participation or direct questions in regard to your rights as a subject in this study to the Campus Institutional Review Board, University of Missouri, 573-882-9585. All reports or correspondence will be kept confidential.

To confirm that you have read and understand the above information, that you have received answers to any questions you may have asked, and to consent to participate in the study, please sign below. Please keep one copy of this letter and return the signed copy to MU research staff.

_____

Date *Signature of Participating Teacher*

Appendix A
Student Assent Letter

CHILD CONSENT FORM

{**will be read to children by the classroom teacher**}

"Child's Name":

I, and other teachers in our school, will be working with you and other students to help children learn to improve their work skills and behavior in their classroom. Some of the things you may be doing include learning how to get along with other children or what to do when your work is too hard for you. We will be starting the activities soon and we will work together for about six to eight weeks.

I have asked University of Missouri teachers to help me by watching you in the classroom, hallways, and the cafeteria to see if you are practicing the new skills you will learn. If you do not want to be observed you do not have to, just tell me. Also, if you have any questions about what you'll be doing, just ask me.

Your parents have already said it is all right for others to watch you in school. If you don't mind guests watching, please write your name on the line below.

Signed: _____ Date: _____

Appendix B

Behavior Assessment System for Children-Second Edition
(Reynolds & Kamphaus, 2004)
Teacher Rating Scale
Reliabilities & Correlations of Scale and Composite Scores

BASC-2 Teacher Rating Scale	**Internal Consistency Ages 6-7 / Ages 8-11**	**Test-Retest Reliability**	**Interrater Reliability**	**Correlation with ASEBA Teacher Report Form**
Scales				
Anxiety	.78 / .81	.76	.23	.75
Depression	.84 / .87	.85	.50	.76
Somatization	.81 / .82	.74	.74	.77
Composite				
Internalizing Problems	.88 / .90	.84	.52	.80

Note: Combined Sex, Ages 6-7 and 8-11, General Norm Samples

Appendix C
Student 1 Daily Progress Report

Student Name: **Teacher:** **Date:**
Check-In / Check-Out Points Sheet
Check-In/Check-Out Teacher's Initials: _____Check-In _____Check-Out

3 = Displayed Consistently **2 = Displayed periodically/inconsistently** **1 = Did not display**

	Be Safe KHFAAOOTY	**Be Respectful** Be an Active Listener	**Be Responsible** Work on Stamina	Teacher Initials
Morning Work	3 2 1	3 2 1	3 2 1	
RTI	3 2 1	3 2 1	3 2 1	
Daily 5	3 2 1	3 2 1	3 2 1	
Writing	3 2 1	3 2 1	3 2 1	
Reading	3 2 1	3 2 1	3 2 1	
Math	3 2 1	3 2 1	3 2 1	
SPARCL	3 2 1	3 2 1	3 2 1	
SPARCL	3 2 1	3 2 1	3 2 1	
Social Studies or Science	3 2 1	3 2 1	3 2 1	
	Earned =	**Earned =**	**Earned =**	
Goal This Week		Points Today = Points Possible =	Daily Percentage Earned =	

Appendix C
Student 2 Daily Progress Report

Check-In / Check-Out Points Sheet
Student Name: **Teacher:** **Date:** _____
Check-In/Check-Out Teacher's Initials: ____Check-In ____Check-Out

Following the Warrior Way – Be Safe, Be Respectful, Be Responsible
1. Eyes on the teacher.
2. Get to work right away.
3. Raise your hand and wait for the teacher.
4. Work carefully and get the job done.

Schedule	**Great Work** 	**Keep Trying** 	**Try Again** 	**Positive Comments**	**Teacher Initials**
RTI and Morning Meeting	3	2	1		
Reading	3	2	1		
Centers	3	2	1		
Math	3	2	1		
SPARCL	3	2	1		
SPARCL	3	2	1		
Theme	3	2	1		
Transition	3	2	1		

 _____  _____
 _____

Total Points: _____
Total Possible Points:_____
Daily Percentage:_____

Appendix C
Student 3 Daily Progress Report

Student Name: **Teacher:** **Date:**
Check-In / Check-Out Points Sheet
Check-In/Check-Out Teacher's Initials: _____Check-In _____Check-Out

3 = Displayed Consistently **2 = Displayed periodically/inconsistently** **1 = Did not display**

	Be Respectful - Participate in class discussions.	**Be Responsible** - Work on stamina - Raise your hand to ask for help or to have a teacher check your work.		Teacher Initials
RTI	3 2 1 N/A	3 2 1	3 2 1	
Daily 5	3 2 1 N/A	3 2 1	3 2 1	
Writing	3 2 1 N/A	3 2 1	3 2 1	
Reading	3 2 1 N/A	3 2 1	3 2 1	
Math	3 2 1 N/A	3 2 1	3 2 1	
SPARCL	3 2 1 N/A	3 2 1	3 2 1	
SPARCL	3 2 1 N/A	3 2 1	3 2 1	
Social Studies or Science	3 2 1 N/A	3 2 1	3 2 1	
	Earned =	**Earned =**	**Earned =**	

Total Points = Total Possible = Daily Percentage =	**Goal This Week**

Appendix D
Intervention Acceptability Questionnaire –Student Version

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1. The Check-in/Check-out program helps improve my behavior at school.

Strongly Disagree Strongly Agree

1 2 3 4 5 6

2. The Check-in/Check-out program helps increase my work completion.

Strongly Disagree Strongly Agree

1 2 3 4 5 6

3. It is easy to participate in the Check-in/Check-out program.

Strongly Disagree Strongly Agree

1 2 3 4 5 6

4. The Check-in/Check-out program is worth my time and effort. Overall, it really helps me.

Strongly Disagree Strongly Agree

1 2 3 4 5 6

5. I think the Check-in/Check-out program may be good for other kids in school.

Strongly Disagree Strongly Agree

1 2 3 4 5 6

***In the space provided below please list any other comments or concerns you have about the Check-in/Check-out.**

Appendix D
Intervention Acceptability Questionnaire –Parent

Directions: For each statement, **circle one number** that best indicates how you feel about the Check-in/Check-out program.

1. How effective was the Check-in/Check-out program for improving your child's behavior at school?

Not Effective					Very Effective
1	2	3	4	5	6

2. How effective was the Check-in/Check-out program for increasing your child's academic performance (e.g., improving grades and/or work completion)?

Not Effective					Very Effective
1	2	3	4	5	6

3. How easy is it to participate in the Check-in/Check-out program (e.g., review, sign, and return daily progress reports)?

Very Difficult					Very Easy
1	2	3	4	5	6

4. Having my child in the Check-in/Check-out program is worth my time and effort.

Strongly Disagree					Strongly Agree
1	2	3	4	5	6

5. I would recommend the Check-in/Check-out program to other parents and students.

Strongly Disagree					Strongly Agree
1	2	3	4	5	6

***On the back of this page please list any other comments or concerns you have about your child's experience in the Check-in/Check-out program.**

Appendix D
Intervention Acceptability Questionnaire –Teacher

Directions: For each statement, **circle one number** that best describes how you feel about the Check-in/Check-out program. Please answer specifically regarding (*student name inserted here*).

1. Problem behaviors have decreased since enrollment in the CICO program.

Strongly Disagree					Strongly Agree
1	2	3	4	5	6

2. Academic achievement has increased since enrollment in the CICO program.

Strongly Disagree					Strongly Agree
1	2	3	4	5	6

3. It was relatively easy (e.g. amount of time/effort) to implement the CICO program for this student.

Strongly Disagree					Strongly Agree
1	2	3	4	5	6

4. The CICO process for this student was worth the time and effort.

Strongly Disagree					Strongly Agree
1	2	3	4	5	6

5. I would recommend that other schools and teachers use the CICO process with students who are similar to this one.

Strongly Disagree					Strongly Agree
1	2	3	4	5	6

***On the back, of this sheet please list any other comments or concerns.**

Appendix E
BEP Fidelity of Implementation Observation Checklist

Student:

Teacher:

Date:

Observer:

Reliability Check: Y N

If the feature occurred during the observation circle "Y" for yes
If the feature did not occur or occurred incorrectly, circle "N" for no.

I. Morning Check-in

• Student checked in.	Y	N
• Facilitator provided DPR	Y	N
• Facilitator provided reminder for expectations, skills, & daily goal	Y	N

Percentage of Component Implementation =

II. Regular Teacher Feedback

• Teacher prompted student to come to or mark chart.	Y	N
• Teacher provided positive specific feedback and corrective feedback (if applicable)	Y	N
• Teacher awarded points.	Y	N

Percentage of Component Implementation =

III. Daily Check-out

• Student checks out (Facilitator or Teacher provided reminder if needed).	Y	N
• DPR points were totaled and documented.	Y	N
• Facilitator provided verbal performance feedback.	Y	N

Percentage of Implementation =

IV. Data Collection & Monitoring

• Facilitator calculated percentage of points earned.	Y	N
• Facilitator enters DPR percentage into spreadsheet.	Y	N

Percentage of Implementation =

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VITA

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